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# The Autobiography of an Idea

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## CHAPTER VIII.

### *Louis Goeth on a Journey*

EARLY in the summer of '70 Henri List felt an impelling desire to visit his second daughter, *Jennie,* whom he had not seen in a number of years. In 1862, she was married to a certain Walter Whittlesey, a contracting railway engineer, and they lived on a 300-acre farm at Lyons Falls, N. Y. On the 29th day of February, 1864, she added to the world's population a daughter: in due time named Anna, under Presbyterian auspices. Mrs. Whittlesey, at the time we are considering, was 34 years of age—one year younger than her sister, *Andrienne,* greatly beloved mother of Louis Sullivan. When Henri List's desire had ripened into a resolve and was so announced, there was "the devil to pay," as was said at times in those days. Louis became frantic. He must go too. He, also, had not seen his *Tante Jennie* in many years. He must see where she lived and how she lived. He must see his dear little cousin Anna, and Uncle Walter too. He must see the farm, and the river and the great waterfall. "Grandpa, I have never seen a waterfall, only in pictures, and in pictures they don't move and they don't roar; I want to live with a *real* waterfall; and I want to see the Berkshire Hills; and the Hudson; you know, Grandpa, pictures don't give you any real idea; why Grandpa, a picture of a tree isn't anything at all when you see a real tree, like our great Ash at Cowdry's; and to think, Grandpa, I've never been farther away than Newburyport; take me with you, Grandpa. I want to see something big; everything in Boston and Wakefield has grown so small; we are so shut in; my geography says there are big things as you go west, that outdoors gets bigger and bigger; I want to go, Grandpa; now is the time; I may never have another chance." Grandpa, at first, was angry and obdurate. He thought only of what a pest, of what a continuous, persistent nuisance his growing grandson would be, and the thought became a nightmare; for Henri List, conforming to custom, was growing older, was acquiring nerves; his easy-going humor showed occasional thin spots of temper. He roared at the "dear little Cousin Anna" business, but the possible significance of the pleadings concerning a "shut-in life" and "big things as you go west" dawned upon him, grew stronger, and he came finally to believe that what he had heard was not altogether boyish nonsense but a rising cry for expansion, a defining hunger for larger vision, bigger things; that his grandson, as it were, was outgrowing his cocoon. Upon second and third thoughts he agreed; whereupon the few remaining sane ones also agreed that Louis needed kennel, collar and chain.

The day came. They departed *via* the Boston and Albany Railway in the evening. Sleepless, restive, Louis awaited, as best he might, the coming of the Berkshire Hills into his growing world. He knew he would see them near dawn. The *hour* came; he entered the foothills and began winding among them, as with labored breath the engines, like heavy draft horses, began a steady pull, the train dragging reluctantly into steadiness as succeeding hills grew taller—with Louis eagerly watching. The true thrill of action began with the uprearing of imposing masses as Louis clung to the solid train now purring in the solitudes in ever-lengthening swings—deep valleys below—until, amid mists and pale moon gleaming, arose the mighty Berkshires, their summits faint and far, their immensities solemn, calm, seeming eternal in the ghostly fog in the mild shimmer, clad in forests, uttering great words, runic words revealing and withholding their secret to a young soul moving as a solitary visitant, even as a wraith among them, the engines crying "We will!", the mountains replying "We will!" to an expanding soul listening within its own mists, its own

shimmering dream to the power without and within, amid the same echoes within and without, bereft of words to reply, a bare hush of being, as though through mists of mind and shimmer of hope, SUBLIMITY, in revelation, had come to *one* wholly unprepared, had come to *one* as a knock on the door, had come to *one* who had known mountains only in books. And Louis again, in wonder, felt the power of man. The thought struck deep, that what was bearing him along was solely the power of man; the living power to wish, to will, to do. That man, in his power, with broad stride, had entered the regioned sanctity of these towering hills and like a giant of Elfinland had held them in the hollow of his hand. He had made a path, laid the rails, builded the engines that others might pass. Many saw engines and rails, and pathway, and *one* saw what lay behind them. In the murky mist and shimmer of moon and dawn, a veil was lifted in the solitude of the Berkshires. Louis slept; his nerves becalmed, amid the whistle's sonorous warnings, the silence of the engine, the long, shrill song of the brakes, with mingling echoes, as the train, with steady pace, wound slowly downward toward the Hudson, leaving the Berkshires to their silence and their solitude—and Louis slept on, under the wand of the power of man.

They reached Albany in broad daylight. The Hudson, to Louis' dismay, did not impress him as greatly as he had hoped and believed it would. Its course was straight instead of broadly curving, and the clutter of buildings along its western flank seemed to belittle it. It appeared to him as a wide waterway, not unpleasant of its kind. It seemed to lack what Louis had come to believe the character of a river. The bridge crossing it, with its numberless short spans and lack of bigness, beauty and romance he gazed upon in instant disdain. It appeared to creep, cringing and apologetic, across the wide waters which felt the humiliation of its presence.

Yet he received a shock of elation as the train had moved slowly along the bridge, carrying him with it; and as he gazed downward upon flowing waters, again he marvelled at what men could do; at the power of men to build; to build a bridge so strong it would carry the weight of a great train, even with his own precious and conscious weight added thereto. And Louis mused about the bridge; why was it so mean, so ugly, so servile, so low-lived? Why could not a bridge perform its task with pride? Why was not a proud bridge built here? Was not New York a great state? Was it not called in his geography "The Empire State"? Was not Albany the Capital City of that state? Then why so shabby an approach? Was not the broad Hudson figuratively a great aqueous frontier between Massachusetts and New York, each state proud in sovereignty? And was not this bridge a presumptive greeting between sovereign states? For surely, the railroad train came straight from proud Boston to exalted Albany? And a veil lifted as there came to his mind a striking verse he had read:

*"Why were they proud?*
*Again I cry aloud*
*Why in the name of glory*
*Were they proud?"*

And there came up also to him the saying: "By their fruits ye shall know them," as, lost in imagery, he visioned forth the great Bay State, saluting the great Empire State, saying, solemnly:—The Sovereign State of Massachusetts greets the Sovereign State of New York. Let this noble bridge we herewith present you be a sign and a bond of everlasting amity between us, even as Almighty God proclaimed unto Noah of old and his sons: "I do set my bow in the cloud, and it shall be for a token of a covenant between me and the earth." Thus Louis, ruminating rather fiercely, wished to know what was behind the pestiferous bridge. He keenly felt that man's amazing power to do, should, in all decency and all reason, be coupled with Romance in the deed. And even more keenly he felt, as his eyesight cleared, that this venomous bridge was a betrayal of all that was best in himself, a denial of all that was best in mankind.

That day they took the New York Central train for Utica. After traversing the roughage, the Mohawk Valley opened to them its placid beauty as in welcome to a new land. And to Louis it was in verity a new land, known to him up to this very present hour as a geographical name—an abstraction—unknown to him and wholly unimagined, in its wealth of open rarity, its beauteous immensity of atmosphere. Here was freedom; here was expanse! Louis ranged with his eyes from near to far, following the sweep of the valley floor from the Mohawk to the distant low-flowing hills, and to and fro caressingly; and as mile after mile of valley passed by, and again mile upon mile, Louis' peaceful mind passed into wonder that such an open world could be; and now he marvelled, not at man's power and his works, but at the earth itself, and a reverential mood claimed him for its own, as he began in part to see with his own calm eyes what Mother Earth, in her power, had done in her varied moods, and to surmise as best he could what more she had done that he knew not of. And all this while the Mohawk wound its limpid way, gentle as all else; and Louis, softening into an exquisite sympathy, cast his burden upon the valley, and there he found rest; rest from overintrospection, rest from overconcentration; freed from suppression and taboo.

Thus Louis became freshened with new growth as a tree in spring, and a new resilience came to take the place of the old. He was cleansed as by a storm, and purified as by fire; but there was no storm, no fire, no whirlwind—there arose from the valley a still,

small voice, and Louis heard the voice and recognized it as his own returning to him, and he was overjoyed and strengthened in his faith and became as one translated into the fresh, free joy of living; for in this valley, this wilderness of light and earth he had found surcease.

Louis turned to Grandpa, whom he found dozing. The hills were coming together, a lurch of the train awakened Grandpa; he regarded Louis with a lazy smile and asked him if he had found the "big things," and how about the "shut-in life." Louis at once overflowed concerning the Berkshires, the Hudson, and the Bridge, but said not a word about the valley—*that* was sacred. When he had finished, Grandpa's face spread into one of those grimaces that Louis knew but too well as a preliminary to speech; and Grandpa said: "As to your bridge, young man, I know nothing; as to the Hudson, you know nothing; as to your Berkshires, they are an impertinence."

Grandpa was an incorrigible tease. With inward chuckle, with sweet, succulent sinfulness, he gazed his fill upon a crestfallen face, knowing the while how quickly and how well he could restore its color; then, having gloated long enough, he, as always, relented—but slowly, for effect; he began: "Louis, what good does the study of your stupid geography do you? Suppose you *can* bound all the states, you haven't an idea of what the states are. You see a crooked black line on your map and it is marked such or such a river; what do you know about that river? Have your teachers ever told you anything of value about a river? Any river? Have they ever told you that there are rivers and rivers each with its special character? Have they ever given you a word-picture of a river, so that you might at least summon up an image of it, however short of reality? They have not. They can not. They are not inspired. They are victims of routine, wearied on the daily treadmill until they can no longer see into the heart of a child. Now, I have watched you since you were a babe in arms, and I have mostly let you alone for fear of meddling with nature's work; for you were started right by my daughter, the mother who carried you and yearned for you. She is sound to the core. She alone of my children might fittingly wear the red cap of liberty. Yet you do not know your own mother. *I* know *you*. I know your abominable selfishness—come from your father; and your generosity and courage—come from my proud daughter. You have a God-given eye and a dull heart. You are at one and the same time incredibly industrious and practical, and a dreamer of morbid dreams, of mystic dreams, sometimes clean, brilliant dreams, but these are too rare.

"What you have said, from time to time, concerning man's power to do, has astounded and frightened me, coming from you. *That idea* you never got from any of us. *There* shines the light of the seer, of the prophet, leading where?—to salvation or destruction? I dare not think how that flame may grow into conflagration, or mellow into a world-glow of wisdom. But I know, worst of all, that adolescence is at hand; that you are in grave danger of a shake-up. Hard work and clear, straight thinking may pull you through; that is my sincere hope. I regret, now, having spoken harshly: I did not intend to, but one thought led to another as a river flows. Now let us return to earth and I will tell you about the Hudson."

Then Grandpa, aroused to eloquence, made a splendid, flowing, word-picture of the Hudson, from Albany to the sea, that brought out all the rare qualities of his fine mind, and so aroused Louis that he made the journey with him—lost to all else. Just then the train slowed up and came to a full stop. Louis looked out of the window. They were in a ravine, with high walls of rock, jagged and wild, and through this gorge came dashing, plunging, swirling, sparkling, roaring over the ledges in cascade after cascade, laughing and shouting in joy, the same Mohawk River that had flowed as gently as the footstep of a veiled nun, through the long, quiet valley they had traversed. Louis was exultant, he leaped from the train, waved his hat, and in spirit sang with the waters the song of joy. The bell clanged its warning note, Louis was aboard with a swing, and as the train moved on, from the rear platform he waved his farewell to Little Falls.

They soon arrived at Utica; and Grandpa, who had begun to feel the fatigue of the journey, announced that they would spend the night there in order to be fresh on the morrow. Louis, still restless, took a long, evening stroll. Utica had not impressed him. It seemed staid and somnolent, giving out an air of old and settled complacence, differing however, in kind and quality, from that of New England. So he strolled; his thoughts reverting to Grandpa and his extraordinary monologue; and for the first time, since he had begun to think such thoughts, he asked himself, what lies hidden behind Grandpa?

* * *

The Black River at that time flowed irregularly northward, as presumably it does today. Originating in hills not far northeast of Utica, it finally, after much argument with the lay of the land, debouched into Lake Ontario, not far beyond Watertown. About midway in its course it picked up the Moose River, and a short distance beyond their junction broke into a rough and tumble waterfall of perhaps forty feet descent, beyond which, its surface at first much ruffled, it went smoothly on its way as far as the eye could comfortably follow. The water-tumult was named Lyons Falls. Near the falls, on a narrow flat, close to the west bank of the river, sat dismally, in true American style, in the prevailing genius of ugliness, a

hamlet or village, also called Lyons Falls. It was occupied at the time by what were then known as human beings and was the terminus of a canal, already in decay, that had somehow found its way from the City of Rome. At a level higher than the village flat, ran, substantially north and south, a railway, named, if memory serves, the Rome, Carthage & Watertown. During what time the village had served as the terminus of the railway, it flourished; when the line moved on, the village drooped and withered into what has eminently been set forth as a state of innocuous desuetude. At the station was a dirt road at right angles to the railroad, that quickly fell around a curve down to the village. To the westward, however, it ran straight as a section line over the hills and vanished.

From the railway station the ascent was gradual for a space, and at a distance, say of a hundred yards from the railway, and close to the northern side of the dirt road, rested the home of Walter Whittlesey, a rather modern structure for that day, surrounded by spruce trees that looked as though they had been dragged there and chained. Across the road from the family residence was the ice house, secreted in a lovely and refreshing glen of wildwood; at a decorous distance northeast of the "Mansion" was a big barn with its out-buildings, all in a state of dilapidation, and adjacent thereto was a worn and weary apple orchard, lichen-covered and rheumatic with age. Beyond this orchard was sheer stubble over a vast acreage.

Not very far west of the house, however, was a charming valley, quite incidentally berthed between the looming earth-billows. Throughout the length of this ever-to-be-hallowed spot busily ran a rivulet to the encouragement of a swath of herbage, and of thankful shrubbery clinging to its edges. Part way up the western slope was a long horizontal out-cropping of limestone ledge, along which, in comparative safety, grew a slender grove of tall, hardwood trees, with inviting undergrowth. One cannot drive a plow through a limestone ledge, and it is too much trouble to drain a low spot where there are plenty of hills. The groveland paid its rent in firewood, the rivulet paid no rent at all,—thus were they tolerated in their beauty. Hay was the general crop.

The Black River was crossed by a wagon bridge at a point between the Moose River and the falls. The road continued on to Lyonsdale. This same Black River gave an impression of performing a bold, high-handed deed. It split its territory sharply in halves. From its left bank rose wave upon wave of smooth hills mounting to a high plateau, while, as sharply from its right bank spread a huge, somber, primeval hemlock forest, mounting in turn upon its hills beyond the range of vision. Out of this forest rushed the Moose River, its waters icy and dark. Into this forest ran no road for long. The Black River appeared to have done this big, high-handed act; but the recurrence of the name Lyons, and the presence of a baronial seat at Lyonsdale, just within the edge of the forest, might have offered a diverging explanation to one intent upon what lies beyond appearances. However, such was the lay of the land.

The train bearing Grandpa and Louis, after the preliminary whistle and bell clanging of ceremony, slowed up at the station. Grandpa, clean shaven, erect, aglow, descended with dignity; Louis, somewhat begrimed because of his fixed belief that the place for his head lay outside the car window, jumped after him, already excited by the Black River. He wanted to investigate everything at once or immediately; oh, yes, he must kiss *Tante Jennie.*

They were greeted at the station by Walter Whittlesey, a sizeable man, swarthy, grave, full bearded—black sprinkled with gray, wearing the wide felt hat of a landowner who knew horses. He had given instructions, and had so notified Grandpa, that all baggage and luggage would be cared for, extraneously, by menials. He was a calm, courteous man, whose bearing suggested a lineage of colonels on horseback, blue grass, bourbon, blooded stock, beauteous women, and blacks.

The three walked leisurely up the road, to the white house with green blinds where *Tante Jennie,* otherwise Mrs. Jenny List Whittlesey, awaited them with the reserve of a gentlewoman whom long practice had enabled to speak with delicate precision in a voice scarcely audible, and to inhale her smiles.

As the trio mounted the steps leading to the veranda, Louis in his rough and ready way casually noticed, not far from the doorway, a young lady reclining in an easy chair, quietly rocking, deeply absorbed in a book. Scarcely had he entered the open door but she had affirmed: "I'm going to like that boy."

Within the "spare room" of the house, Grandpa folded his daughter in fervent arms, kissed her with the profound affection of an ageing father, and wept. Auntie did not weep; she amiably returned her father's greeting, and said something in very pure French that seemed to satisfy. Louis went through the performance awkwardly, and as hastily as possible. Auntie gave him the dry kiss of superculture and assured him in very pure English of her gratification at his arrival within her home.

Louis at the earliest moment escaped to the veranda. He had forgotten all about the young lady, and was startled and abashed to find her still there, gently rocking, absorbed in her book. Before he could retreat she arose in greeting with a smile known otherwhere only in Paradise; she said in glee: "My name is Minnie; I am eighteen, and a 'young lady' now. Oh Louis! I have waited for you so impatiently, and here you are at last. I am sure we shall like each other; don't you think we will? I'm in society in

Utica and I'm going to tell you lots of things. See, I wear long skirts and do up my hair, but I can't climb trees any more; isn't that a shame? But I'll run races with you and we'll have lots of fun; and I'll tell you all about the books I've read, and all about society. Here I've been for a month reading French books and speaking French with Aunt Jenny and have grown weary of myself; now you and I are to be chums! Don't you think you'll like me?"

And Louis, taken thus unawares, and thus caressed with words, dared at last to look into gray Scotch eyes that seemed endowed with an endless fund of merriment, of badinage, of joy, of appeal, of kindness, and saturated with an inscrutable depth beyond all of these. He gazed steadily at a tender face, narrow, tapering, slender, and very pale, delicately freckled; at nostrils trembling; at a wide thin-lipped super-sensitive mouth; at large ears; at thin, vagrant, dark, sandy hair; at a sprightly medium figure, all alive. She was clad in dark blue silk. He found in her not beauty but irresistible pervading charm. As he was thus absorbed Minnie said: "Sit down beside me, Louis dear, and watch me die. Sit very still and watch." Whereupon, leaning back in her easy chair, she closed her eyes, deepened her pallor, closed her nostrils, made a thin line of her mouth, elongated her face, and lay deathly still, as though in veritable *rigor mortis,* until Louis' nerves were on edge. Then, still dead and rigid, the fine line indicating her closed lips slowly widened across her face, the thin lips parting slightly as of themselves, cadaverously, the teeth also, a little later; after a seemingly endless wait, from this baleful rictus there came out moans, wails, gurgles, the ears began to crawl as of themselves. Then of a sudden the corpse sat bolt upright, with wide glaring eyes, grasped Louis by the shoulders and in fierce, frothy words forecast for him the direst of misfortunes by sea and land. Then she patted Louis' pale cheek, fell back into her chair and giggled softly, casting at Louis the funniest, merriest, glances. "How old are you, Louis?" "Fourteen." "Oh, I knew that. I asked your auntie. But isn't it lovely, fourteen and eighteen; fourteen and eighteen!—and to think that I have died for you, and have come back to you!

"Tomorrow we'll go to church. The new minister's a rather nice chap. I like to hear him pray, he's so genteel about it; and he's sound in doctrine, so your auntie says, and you know she's a blue Presbyterian." And Minnie immediately took Louis under her wing.

Next day she *took* him to church, leading him by a string, as it were, set him down beside her in the family pew, and their whisperings mingled with other whisperings in the repressive silence. Then the minister appeared in the pulpit, a fairly young man with mien and countenance betokening earnestness, piety and poverty. Louis thought he prayed well, as with quiet fervor he set forth his belief that God was within his temple, and assuredly within the hearts of his flock. When it came to the sermon, Louis sat up straight and took eager notice, for the good man had just read from the big bible this text: "And the Lord went before them by day in a pillar of a cloud, to lead them on the way, and by night in a pillar of fire, to give them light to go by day and night." Louis needed no sermon; in a flash he knew that all his life he had been led on by a pillar of gleaming cloud, and a pillar of fire; and his far-reaching instant vision forecast it would be thus until the end. Yet he took much heart in listening to the youngish man in the pulpit grasp the totality of this simple story, transmute it into a great symbol, and in impassioned voice lift it to the heights of idealism and of moral grandeur, refashioning it into a spiritual pillar of cloud and a pillar of fire ever present in the hearts, the minds, the souls of all humans, as he urgently, yea, piteously besought the blind to see.

As they walked home Minnie remarked that it was an extra-fine sermon, but as Louis did not reply she scented danger and tactfully chatted about little things, until her joyous sweetness detached him from his pillar of ravishing cloud and the pillar of wondrous fire. Soon she had him laughing as gaily as herself and plucking wayside flowers for her. For Minnie was intuitive to a degree. She knew that Louis had been deeply stirred, that he had been dreaming somberly as they left the church: and this she would not countenance. She believed that if one must dream it should be of happiness, and the dreamer wide awake to the joy of living. They sat for a while by the falls, but Louis was not content. There seemed to be something purposeless in this clumsy tumbling about of dark waters, losing their balance, falling helplessly over ledges and worn boulders, lost in their way among them, and reeling absurdly off at the bottom. It all seemed to lack order and singleness of purpose. Near the falls was a small wooden mill afflicted with the rickets, and this alone seemed in tune with the falls.

So they trudged home and Aunt Jenny said the blessing. Grandpa had just returned from a long walk, his favorite pastime—fifteen or twenty miles—nothing for him. It became his daily habit. He always went bareheaded, always got lost and always found his way back.

Next day Minnie told Louis, in confidence, she knew of a charming spot not very far away, where there were ledges of rock and tall trees, and a darling rivulet with green along its banks. She *took* him there, and would not even let him help her over the lichen and moss covered rocks. With Louis in tow she found a shady spot, with ferns and undergrowth forming a nook, and the wide-branching trees a canopy. She had taken books with her, and on a large, ancient stone which she called her pulpit, she perched with her slave. Below them ran the rivulet, and above the opposite

crest there showed a bit of the roof of the dwelling. Minnie clapped her hands with joy. "Louis, don't you think I'm good to bring you here? It is the solitary oasis in this desert of hayland. There is hay, hay, hay for miles."

Presently she opened a book and read from Tennyson, making her selections carefully varied, feeling her way through Louis' responses to see where she could reach his heart, how she could bare it, and then keep her secret. She read from Byron, recited many other poems with a skill unknown to elocutionists, and a stealthy, comfortable look came into her eyes now turned green, her face wreathed in a Mona Lisa smile, as she said: "Louis, this is a great, beautiful good world if but we knew it, and to this very spot I have often come in thankful mood, and from this very pulpit prayed to these trees to make me pure in heart." And then she told Louis about the many books she had read, largely French novels—for practice, she said; and then Louis told her he had read all of Captain Mayne Reed's books, all the Leather Stocking Tales, some by Maryatt, and some wonderful and beautiful stories in the Bible; and he recited for her, verbatim, the story of Elijah, the whirlwind, and the still small voice.

The smile on Minnie's pale face became luxurious, her gleaming eyes about to close, as she said half-warningly: "Louis, Louis, you are in danger!" and refused to explain. Then suddenly coming to herself she cried: "We must go back to the house at once; if we are late at supper, your auntie will give me just one look, and I will know exactly what that one look means; but *you* won't." And she took Louis by the hand, her books under the other arm, resumed her jaunty mood and led him to the house, delivering to his Auntie a human package not merely stirred, but churned into butter and whey.

Auntie again said grace; the thoughts of all bowed heads but hers were on supper. The evening was spent by the family on the dark veranda singing old-fashioned hymns; after which the peace of night came over all—but one.

Next day, Minnie, repentant of her wickedness, appeared as a fresh blown morning glory, gave hearty, cheerful greetings, to all, and to Louis talked as might an ordinarily affectionate sister. Her eyes were crystalline, her carriage buoyant. Then, at the appointed time, she began her hour of French with Auntie; and as Louis, nearby, listened, he framed a desire and a resolve to learn the language which Minnie seemed to read and speak as easily as Auntie. The lesson over, Minnie came to Louis, took a place beside him and as one wooing, said "Dear *protègé:* the hour is at hand. I have much to say. The woods are calling, the birds are waiting. Let us now repair to the pulpit and be two sensible humans." To the pulpit they repaired, that day and many a day. Once seated on the great stone, Minnie put Louis at his ease and began rapid-fire questions, about Louis' home and school life. She wished every detail; and Louis answered faithfully. He told her not only the story of his life, but the story of every one and everything therewith connected: Minnie saying: "Fine, fine, how well you tell it," in running comment. He even told Minnie one of Julia's fairy tales, tales of the "Good people," and Minnie cried: "Oh, what a lovely brogue, isn't it sweet?" and Louis said "yes, it was," and added that Julia had taught him some real Gaelic words, but he had forgotten the meaning of most of them. "That gives me a bright idea, Louis; you don't know French, so I will give you a pass-word, in French, that is better than any Gaelic. Say to me, once every day, *Je t'aime;"* and Louis said to her once every day *Je t'aime*—deeming it a secret. And Minnie would gravely say each time, in approval, that he pronounced it beautifully.

She told him conversationally about herself and her home. She described in detail her finishing school, and mimicked its follies. She raved over her adored brother Ed, fresh from Yale. Told of her coming out, of Utica society, and her set, and of the landed aristocracy, the old families, the exclusive, best people; said her father was a big grain forwarder, and had plenty of money, as far as her simple needs were concerned, and described minutely her trip to Europe. She travelled this ground to and fro with many a mimicry, flippancy, wise saw, and splendid enthusiasms.

So Louis began to see that people were graded. He was pained at many things Minnie casually described. She was revealing too much. She was unconscious of lifting many veils, as Louis was unconscious of repeating world-truth when he said, every day, *Je t'aime.* He was not lifting any veil for Minnie; this self-same Minnie having one small devil peeping through each eye. Their talk, throughout that live-long day, was gossip.

When Minnie came, through questioning, to a full sense of the depth of Louis' ignorance of the world, of social organization both in its ephemeral and its momentous inert and stratified aspects, that he was provincial, that he was honest, frank, and unsuspecting, she became alarmed at the new danger, and determined to prepare him; and in so doing, she lifted at least a corner of a sinister and heavy veil that lay behind appearances. This she did with skill, and a little at a time, proving her case in each instance, by direct illustration, and remarks none too complimentary. But Minnie could not be serious for long at a time; she preferred frivolity, nonsense and high spirits—never for a moment neglecting to keep Louis dazed in her land of enchantment.

Minnie became Louis' precious teacher. She made him feel he was not being taught, but entertained with gossip. She knew that what she said in persiflage,

would later sink in deep, and she knew why it would do so.

Minnie was both worldly and unworldly. With nature she was dreamy; but when it came to people, she became a living microscope, her sharp brain void of all illusion, for her true world was of the world of people—there she lived—as Louis' world had been a world of the wide open—of romance. Hence, with Louis she was ever gentle, even though she dangled him as though he were a toy balloon.

An aching in her guarded heart was soothed by him; and he became for her a luxury—a something to remain awhile a precious memory. Thus Minnie filled the air with laughter, and with debonnaire delight—meanwhile feeding honey drop by drop—just to see upon a human face the rare, the precious witching aspect of idolatry.

* * *

So came a day when Minnie, on the pulpit, talked of things pertaining to herself. Among other words she said the young men of her set were grossly stupid; incapable of thought above the level of the sty. Their outlook upon life she said was vapid, coarse and vain. That they held women to be property, their appendage, their vehicle of display. They were all rich, she said, and this made matters worse. To be anchored to such brutes, scarcely decent in their evening clothes, she said, was horror. She would be owned, she said, by no man rich or poor. She must be free, she said; free as air. Knowing all this now, she had marked her course in life, and she said that never would she marry;—the risk of sorrow was too great. All this she said as lightly as a swallow on the wing.

At these last words, something fell away in Louis' solar plexus, sometimes known as the sensorium, and Minnie said: "Never mind, never mind, you'll outgrow it, Louis, you are fourteen, I'm eighteen. While it lasts, let us be dear friends together; the dearest comrades ever known. Your heart's in mine and mine in yours, I know. Let these great oaks, as witnesses, betroth us in such way, and prophesy a lovely memory."

Louis with unheard-of stoicism held back his tears. And Minnie said: "Come now, let's be going; don't refer to this again. Let's be as we've always been, together, carefree—and let laughter ring again."

Such was Minnie's way of doing and of saying. She was Louis' loyal friend. She mothered him in sprightly malice and in tenderness alike. All her vagaries and sweetness came from one constant nature. She was ever thoughtful of the needs of others. She was exquisitely human. To Louis, long adapted to the elderly, she was held by him as in a shrine, to be the only truly human he had ever known; and her kindness in adopting him, and making him her own, not for a day, but for all the glad summer long, made him feel as though his life, before her floating into it, had been but a blank. How could he ever repay. She had come, it seemed to him, out of the invisible that lies behind all things, all dreams, to be his fairie queen.

And now it seems as though a half a century had stood still.

(*To be continued*)

# Indices, Bound Volumes and Back Numbers

An Index of Volume Ten has been prepared and will be mailed to all subscribers on receipt of a request therefor.

Arrangements have been completed for binding Volume Ten and we desire to call the attention of subscribers to the fact that this is the only notice of binding that we shall issue. It is customary to wait until 1 February before putting the binding actually in hand, in order to give distant subscribers a chance to get their copies of the JOURNAL into our hands. Until the first of February, 1923, the price for binding will be : Buckram $3.25, and Half Morocco, $5.00. Postage extra.

Each year there are numbers of subscribers who lack certain numbers of the volume they wish bound. It is of the utmost importance that requests for back numbers be in our hands without delay. Missing numbers cannot always be supplied by us and in order to supply them it is frequently necessary to go to considerable trouble. The office of the JOURNAL will do its best to find back numbers for Volume Ten or for other volumes, but we again call the attention of subscribers to the fact that back numbers are more and more difficult to obtain each year. Therefore, those who wish to be sure of having a complete file should take steps to that end without delay.

# Vingt Ans Aprés--II.

*By* H. VAN BUREN MAGONIGLE

***Photographs by the author***

*Venice.*

There is more than one beautiful way to approach Venice, and more than one lovely hour to enter this city of dreams, where the sky is like an opal and the sea repeats its tones, and the air is tinged with the pale wraiths of every sunrise and sunset and every grey or sunny day that has ever dawned and died over the enchanted place. You may go up from Chioggia by sailing boat or steamer at any time of day and watch the rosy cloud low down on the rim of the lagoon grow into the flushed towers and domes and palace fronts that once seen are loved forever. Coming from the west one would choose the hour of sunset. The scene that greets us as we come out of the station at the head of the unforgettable landing stairs, their broad expanse dotted with shouting boatmen and embarking and disembarking folk, never stales. The craft are crowded so close the water is hardly visible. The eye runs rapidly over certain uniforms and caps on one of which appears the name of the hotel of our choice. Magically we are handed to our places in the gondola, magically our baggage follows and is stowed away, and we glide out of the press without touch or scrape of gunwale. We loll back on our cushions. We apostrophise life. "Life!" we say, "Life! What more can you offer!" And we slip away down stream with an occasional low call from one of the gondoliers, past the old façades of rose and gold we knew so well so long ago, the touches time has given them in the intervening years kindly veiled by the gathering twilight. For it is not well to come back to Venice after many years in the light of full day. Sad to say, at the very first sight of her beloved face in the bright morning, the heart of her lover misses a beat—so old, so worn, so haggard it seems; she mutely pleads for time; gladly you grant it; and in a few hours or days the enchantress resumes her sway and the memories of old tendernesses conspire to make that which at first, to pained and puzzled eyes, seemed shabby and dishevelled, presently be revealed as only mellow and picturesque. But this is all for the morrow. Just now we are moving down the Grand Canal, the low sun touching faintly the myriad chimney tops, the shadows seeming to rise from the water like an exhalation gradually to fill the tideways to the brim.

The tall, thin gondolier forward stops rowing, comes back, half kneels, and points to a palace. He smiles ingratiatingly. It is impossible not to notice that the ancient man has few teeth if any. Through those ragged gates of speech come strange utterances of which we can catch only the first word, *"Shignore!"* followed by such incomprehensible gibberish as it is seldom one's privilege to hear. At last we realize that he is speaking an extraordinary mixture of pidgin French, pidgin English, and the Venetian dialect of the Italian tongue, delivered in a mould of baby-talk presumably suitable for foreign comprehension, and wonderfully complicated by his toothless state. *"Shignore!"* . . . he breathes upon us and reveals another cause of incoherence; Mr. Volstead has not yet succeeded in persuading Venice to his views. The old boy continues indescribably to describe palaces, and at first we suffer him, with an occasional *"Gia, gia"* of comprehension; but he is beginning to spoil this first hour in Venice looked forward to with the tremulous eagerness every self-respecting American buries in the innermost recesses of his being. At last, *Shignore!* he says, lifting his chin, opening his mouth, and indicating the aridity of his throat with an expressive thumb. *"Non ancora. Basta! Avanti!"* "Not yet. Enough! Forward!" we say. He retires unwillingly to his oar, and habit asserting itself, throws his weight upon it. A cry, a deft stroke, and we whirl out of the broad canal into a narrow channel dark as night. High overhead the sky is flushed with the last warmth of the afterglow. We wind through darkness from whence come low cries of greeting or of warning, dark shapes looming and passing, and at last shoot out into the *Canale di S. Marco* under the *Ponti dei Sospiri* and the *Ponte della Paglia* and float gently to the watergate of our hotel.

* * *

The next morning one of the first things to greet the astonished gaze of one eager to renew old impressions is the unnatural, yes, preternatural, cleanliness of the Ducal Palace, the Library, and sacred S. Marco itself. Gone the old patine. One had not expected the new Campanile to have much; the old one fell just after our last visit; but apparently that it might not have to blush for its old neighbors, someone has scrubbed them to a ghastly pallor; they look wan, like beauteous children of the slums suddenly pounced and operated upon with soap and water. Rage and disappointment seize us. But soft! In a little we are appeased. *They have not washed behind the ears!* And on the back sides of things, in the loggias and arcades, and on side canals, we find the good old dirt, bloom and fruit of the kindly years—and we know we need only wait and come again.

*The Altercators.*

Our windows are on the *Riva degli Schiavoni,* the Strand of the Slavonians. Directly opposite across the wide expanse of the *Canale di S. Marco* is *S. Giorgio Maggiore.* Below us is a gondola station from which arises day and night the sound of altercation. However late we may retire it is still going on—and that one of us in whom the magic of the Venetian night overcomes the power of well-earned sleep, and who spends hours hanging out of the window, reports that not until three or four does it subside and the Altercators curl themselves up in their craft to refresh themselves for the next bout. This begins at the first glimmer of the dawn. Beppo wakes, stretches and begins to red up his boat for the day's work; in so doing he may spatter a few drops of

THE RIALTO
Morning

water on Zanni's gondola alongside or bump it ever so slightly. Instantly, like the explosion of a bomb, Zanni is awake and waking the sleeping echoes with language of which the meaning is to one of us, happily, sealed. Beppo's relations, particularly the ladies, are described and impugned with a meticulous exactitude and a solicitude for detail that bespeaks either a great gift of observation and ample opportunity for its exercise or an imagination of epic sweep and power. The family pig, the Holy Family, and more saints than one suspected, are intimately involved. Other sleeping Altercators sit up and consign both Zanni and Beppo to the profoundest and nastiest depths of Hell. Beppo is not to be outdone.

THE OLD TRAGHETTO

He hurls back insults into the teeth of all his hearers. He invents new and more fantastic repartee. Long before this, in America, such language would have resulted in at least one fractured skull and the clang of the ambulance bell would be heard in the land followed by the deeper innuendo of the patrol wagon. But as breath and imagination begin to flag, the tumult and the shouting gradually die down into mutterings with *porco* for refrain, and an occasional short explosion like a belated firecracker as one more good thing to say occurs to them.

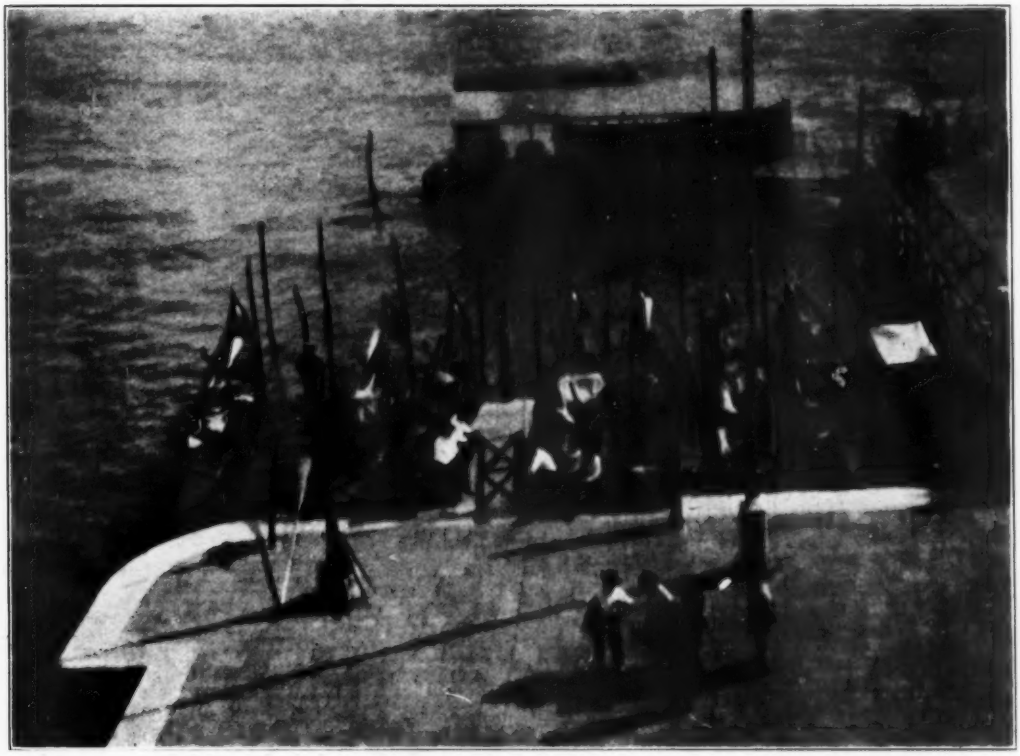
The sun is up by this time, and Beppo and Zanni sit down to break their fast—together.

* * *

Heaven is merciful to the sweet young things and dear old ladies who daily fare forth in gondolas with only the rudiments of Italian. As the kind-faced gondolier backs out into the stream or makes a landing, someone gets in his way or scrapes his precious paint. Whereupon, while out of deference to the ladies he does not split the welkin with unseemly noise, the gentle, soft-voiced man sets up a quiet stream of blistering imprecation and invective that, if they could have understood him, would make his passengers feel, like the spinster in *Providence and the Guitar*, they hardly counted as maiden ladies any more.

*The Shrinking One.*

Coming back from a stroll we hear a voice raised in accents of passion from the landing stairs. That of itself would not by this time attract us, but a circle of attentive listeners seems to promise unusual entertainment and we draw near. Two or three of the Altercator's guild are standing in a group to the left, one or two sitting on the bench to the right. Occupying the center of the stage is another, striding to and fro, beating his breast, smiting his brow, turning to his circle of auditors with arms flung wide, straining face lifted to the God to whom also he appeals. Any one of the crowd might have posed for the expression of the listening man in Briggs' cartoons who picks his teeth and drawls "Yeh" to his enthusiastic interlocutor. Then we notice a slight boy of perhaps seventeen, of the middle and therefore moneyed class, shrinking behind one of the gondoliers to the left. We gather by degrees that he is the cause and the object of this passion-



THE ALTERCATORS

ate oratory. What foul wrong can this pale child have done the brawny *tenore robusto* at Stage Center? The burden of the discourse being, as usual, biographical with a tincture of theology, we are unable to disengage effect and cause. Presently one of the seated gondoliers rises with an authoritative air, moves quietly over to the Shrinking One and mutters something which, though inaudible, a thumb jerked over the shoulder makes plain. "Clear out!" it says. The boy slips away. Does the offended hero of the piece spring after him, snatch him back, shake the *soldo* or *centesimo* or whatever it is all about, out of his very soul? Not at all. He pays no attention and goes on with the show. He is doing it well and enjoying it both as actor and audience. Purest histrionics. It is time for luncheon, and we leave him to his pleasure in powers unusual even in Italy.

*Numero Due.*

One morning we take the gondola of a strapping fellow of about thirty, bravely arrayed in a broad brimmed hat and a red sash, almost, but not quite, as clean as those the private gondoliers wear. He is most polite, most considerate, refraining from unnecessary and unwelcome information, offering a respectful arm at landings, springing to his feet with cheerful alacrity after long waits at the *Frari* and *Carmine*. We come back to the landing of the Altercators after a "course" of about two hours. It so happens that the first bills I pull out of my wallet are the exact amount of the proper fare without the necessary and inevitable *buona mano*. To free my fingers while I fish out the tip, I hand him the bills. As at the touch of a magician's wand the simple courteous creature is transformed into a demon of the pit. His face convulses with fury; he throws his clenched fists toward heaven; he opens his mouth and emits a prefatory, preparatory bellow. I raise a calming hand. "*Pazienza! Pazienza! Aspettiamo un' poco.*" And give him his tip. The magician, money, wreathes the distorted face in enchanting smiles. "*Signore!*" he cries, patting his chest and the gunwale alternately, "*Sempre al' suo servizio, Signore! Ecco, Signore! Numero Due, quando vuole. Numero Due, ricorda!*" "Sir, Number Two is always at the service of the Sir, when he will. Number Two, remember!"

*Grub Bridge.*

A sentimental journey to a spot once familiar takes me across the Grand Canal by way of the old *traghetto* to Grub Bridge, so named in olden days because it lay on the direct route to meals. I find it changed—there are always changes. But, lingering there, memory led me back twenty years and to a certain angle in the wall where she sat me down in student guise, humbly to make a sketch in water color; and as thus I sat, a beautifully appointed gondola swam up to the steps and a young and handsome gondolier, be-sashed and sailor-hatted, sprang out and

THE RIVA DEGLI SCHIAVONI

offered his arm to a genial but important looking personage who, while his gondolier lugged up and unpacked an easel and stool and other painting paraphernalia, walked about and squinted up his eyes in the manner of the artist, at the very subject I was sketching. A great light broke upon me! It was none other, as the novelists used to say, it was none other than the famous F. Hopkinson Smith, painter, author, engineer. I trembled in my young shoes. What if the august eye should chance to light upon my poor parody of a charming motif! By dint of squinting here and squinting there he at last established himself somewhere behind me, just around a friendly shielding corner. After a while I became absorbed and forgot everything until the tinkle of silver and the soft clash of china roused me to consciousness of my surroundings and of the activities of the gondolier, who was busied in setting out a most appetizing luncheon in the boat. Just as it is in the book! I had never quite believed it, thought it was just a literary gesture, that tale of the delectable luncheon when sketching; the figs, purple and white; the luscious grapes; the cheese of more than mortal strength and aroma; the wine of Olympian vintage; served with respectful friendliness or friendly respect by the handsome young gondolier who confesses his love for some Venetian fair between courses, and is made happy ever after by the gift of the gondola. But here it all was, under my very eyes; I felt like a character in the book; at the least I could claim to be a part of the scenery, on the spot like that. Modesty had restrained me from accosting Mr. Smith before, and if now I spoke he might construe my homage as a bid for lunch from a forward fellow. So I put in some accents in the pavement and in the vine on the wall, packed up and went home.

Home for the moment was just back of the *Palazzo dei Leoni* and by merely leaning out of my window I could see the painter up at the turn of the *calle*. My training had been of the most severe artistic probity which, superadded to a character of natural virtue, made me tell the most bitter truths even in a sketch. If it was there, it went in. If the sun didn't shine you waited till it did, or made a study in diffused light. A sketch begun in the morning was finished in the morning, if it took a year. But never, by all that was moral, did you add, or subtract, or *lie!* To lie in a sketch! One might strike down an aged parent, but not, not That! Imagine then the crescent horror of that afternoon. I went off somewhere after luncheon in the opposite direction and came back late. I glanced up the *calle* and there was F. Hopkinson Smith, still painting! I went in and leaned faintly on the window sill. The dusk fell swiftly as I watched him in dismay. The moral foundations of my world were shaken. Until darkness supervened and hid him from my sight, F. Hopkinson Smith painted on.

Some years later I saw a picture by Mr. Smith catalogued in a show and looked it up. It was his sketch of Grub Bridge. The very one, slightly to the left of mine, and farther away. And, horror of horrors, it was in brilliant sunshine! The last remarks of my moral world fell crashing about me. Were the Jesuits right after all, and does the end justify the means?

*Colors.*

The commander of the U.S.S. *St. Louis*—"he was beloved of all his men" as the Bab Ballads have it—has brought his ship up from Constantinople so that the boys may have a run ashore in a civilized country. She is anchored almost opposite our windows. It is good to see the Flag anywhere in foreign parts, but a special thrill runs through us as we mark the reverence paid it on our ships. Every morning the music marches aft and

# VINGT ANS APRES—II

every man jack on deck stands to attention until the flag is run up and the last notes of the Star Spangled Banner die away, salutes and goes on with his work. And again in the evening, the bugle blows Retreat and it flutters down to be caught, almost tenderly, in a sailor's arms, so that it shall not touch even the spotless deck. And every morning, and every evening when we are there, we too stand to attention at our window and participate in the ceremony. It is wonderfully enheartening; for one never knows how patriotic one is until one sees abroad the Flag that means Home and represents the striving of our errant human nature toward Peace, Liberty, and the Square Deal.

*The Singing-Boat and the St. Louis.*

We have been out on the *Giudecca* this evening, weaving silently in and out among the bluff-bowed high-sterned craft that are always anchored there, and as we pass the *Dogana* on our way back, a singing-boat hung with lanterns moves out of the Grand Canal toward the *St. Louis*. We follow and join the group of gondolas and sandolos that is soon increased to a great mass floating raft-wise, gunwale to gunwale, peopled with listeners. The musicians sing the familiar songs of Italy to the accompaniment of guitars and mandolins. Later, as the instruments strike into an unfamiliar air, from the gondola beside us floats up the voice of a girl like the voice of the sweet night itself. Above us towers the side of the warship and in the faint light cast upward from the lanterns of the singing-boat we can see, tier on tier, hundreds of American boys, clustered on every conceivable perch, sitting in appreciative silence through every number and breaking into storms of applause at its close. A young officer in the trim and spotless white of our naval uniform paces steadily to and fro on the after deck, a symbol of the duty and discipline that rules all these young lives. *A rivederci.*

There is more than one way to enter Venice but I could not now imagine any right way to leave her save as we did, even though the Italian time table enforces rising in the dark and partaking of an outline of breakfast in circumstances that make the simple familiar act seem almost furtive.

We take the waiting gondola in the dark side canal, float out into wider waters and lo! a full moon in the western sky and all the stars. How to convey any sense of the wonder of the change we witness, breathlessly, in the half hour ensuing, as the sky pales in the east from deep cerulean to the tender colors of the dawn, and the moon is transformed from a golden ball to a disc of silver, and the palaces, in those minutes just before the sun comes, stand cool and grave and silent bathing their feet in the rising tide and then, suddenly, blush and smile at his first kiss! We find relief from an overpowering emotion in the commonplaces and bustle of the station. We have not said goodbye—nor shall we.

A Rivederci

# Five Sketches

SAMUEL V. CHAMBERLAIN

A Sidestreet in Beaugency

Samuel V. Chamberlain

LES TROIS-MOUTIERS
THE CHATEAU
JULY 1935

SVC

Samuel V. Chamberlain

THE CHATEAU OF PLESSIS-CHERCHEMONT
PARTHENAY - JULY 4

Samuel V. Chamberlain

AN OLD FORTIFIED CHAPEL
NEAR POITIERS
AT VERRUYE - JULY 17

Samuel V. Chamberlain

# The Housing Crisis in Paris

*By* EUGENE H. KLABER

Before the World War, Paris thought of its housing problem in much the same terms as did the New York Legislature, when it voted temporary exemption from taxation for dwellings built within a certain period.

This attitude may be briefly stated as follows: More dwellings are needed for our population, particularly for workers; under present conditions, builders are not meeting the need; let us offer special encouragment to promote the building of cheap housing.

## Growth of the Housing Crisis

The last half of the nineteenth century witnessed a double development of the City of Paris. The first movement was one of increasing congestion of the city itself, due in large part to its growth as a manufacturing center. Increasing industries brought an increased working population, recruited from the provinces and rural districts and, in its train, greater congestion of the poorer sections of the city and higher rents. The city did what it could, by way of regulation of building construction and, from time to time, opening of new streets through overcrowded districts. As elsewhere, these regulations were inadequate to meet the question of proper housing of the poorer people. Slum districts became more crowded than ever. The rents of the newer buildings were higher than the poorer paid workers could well afford, and they inevitably gravitated to the more antiquated houses, where the crowding of large families in small quarters was scandalous.

Recognizing the danger to the increase of the population that this overcrowding involved, the National Government attempted, by loans to private philanthropic and cooperative societies, to encourage building of workingmen's houses, always with an eye to rendering assistance first and foremost to large families. This led to the construction, here and there, of "Model Tenements." Finally, in 1906, communes were authorized to lend funds to, or purchase stock of, housing societies, tenement houses being the principal form of dwelling contemplated.

The second movement was one of decentralization. As land and rent became higher, inside the fortifications of Paris, factory owners began to locate their establishments in the zone of the surrounding suburbs. Real estate owners saw the advantage they had in the possession of cheap land within a short distance of the city and built tenements, which drew not only the workers of adjacent industries, but also many whose daily task was performed within the city walls.

These suburbs, St. Denis, Levallois, Charenton, etc., quickly grew from small villages to large cities, but cities without any regulated growth.

Land owners laid streets and built houses to suit themselves, naturally with an eye only to their profit and restrained by no general plan of development. The authority of the City of Paris extended only to the fortifications, yet here was a zone of cities rapidly growing up at its very doors and vitally affecting the life of Paris, and over which it could exercise no control.

One result of this anarchic development was the creation of a vast working class district. Except for limited sections, the stratification of wealth within the city was formerly horizontal, the wealthier families living on the lower floors and the poorer on the upper. With the movement of the laboring classes to the suburbs, the division became to a large extent vertical. In other words, instead of all classes of the population being mingled, as in the past, a growing separation developed.

As a second result of the anarchic growth of the suburbs, they became the fever spots of Paris. The suburban communes were poor; they had not the wealth of Paris to tax for public improvements. Although in many instances, they grew to be one continuous settlement (Levallois, Clichy, St. Ouen, St. Denis, Aubervilliers), there was no effective cooperation between them. Poor sewerage, poor paving, filthy housing and disease were the consequences. With a far less density of population, many of the suburban *communes* show a greater percentage of mortality from tuberculosis than even the more congested *arrondissements* of the city.

This, then, was the housing problem that confronted Paris: Overcrowding within the city and in the suburbs; the failure of private enterprise as an incentive to home building; the failure of governmental loans to housing societies; no control by the city of its future development, which perforce lay without its walls; no adequately planned transportation system between city and suburbs or intersuburban.

## The Program of Action

In considering the program of action and the results achieved in Paris and its suburbs, it must be remembered that the attempt was not to arrive at a universal solution of the Housing Problem. In the words of M. Sellier:[1] "It should be emphasized that the Departmental Housing Office is not called upon to consider the planning of garden cities in the true sense of the term. . . . The Office was not established to attempt a social experiment of this nature; its purpose is not to serve as a medium of theoretical experiment, interesting as that might be; it has a very limited and definite object: to create settlements that may further the decentralization of the City of Paris and its suburbs and serve as an example to those who develop real estate and who, for the last thirty years, have literally ruined the suburbs, and to show how, making due allowance for the normal economic and moral conditions of city life, it is possible to provide the working population, both manual and brain workers, dwellings giving the maximum of material comfort, sanitary conditions which

[1] *La Crise du Logement* et l'intervention publique en matiere d'habitation populaire dans la region parisienne. Paris, 1921. 4 vols. M. Sellier's book is the history of the failure of pre-War efforts and the development of another method of attacking the problem. His four volumes deal with the origin and development of the housing crisis, pre-War efforts to alleviate it, the new point of view and consequent legislation, and housing work actually accomplished. It is published by the Housing Office of the Department of the Seine, and whereas individual opinions are frequently presented in it, it may fairly be said to describe not only the work of the Office, but also its policies.

may eliminate the inconveniences of large cities, and artistic surroundings, contrasting markedly with the ugliness of former practice. Considerations of the last category should be developed to the highest degree attainable, without vitiating the economics of the operation and maintaining for the institution that character, as a practical example, which it should have."

In a word, the problem was conceived in terms of the relief of the housing shortage in Paris and the orderly extension of the city into the surrounding districts.

Realizing the impossibility of concerted action on private initiative, the Chamber of Deputies and Senate passed a law in 1912, authorizing the creation of public housing offices (Offices Publics d'Habitations à Bon Marché), and state aid was voted, not to exceed one-third of the cost of construction, provided, however, that housing receiving subsidies be occupied, in large part, by families having more than three children under the age of sixteen.

In 1913, M. Sellier proposed to the Conseil General of the Department of the Seine the creation of a Public Housing Office in conformity with the law of 1912, and urged that the work of the Office be directed principally to the creation of garden suburbs. Through his efforts and those of his associates, the Housing Office (Office Public d'Habitations à Bon Marché du Département de la Seine), was established in 1916 and the Conseil General appropriated F.10,000,000 to carry on the work, adding F.17,000,000 in 1919.

Commenting on the nature of the work proposed, M. Sellier wrote: "It would seem that the Office would misconstrue its original purpose in turning its efforts toward the layout, construction and management of sanitary tenements, . . . or the sanitation of existing housing, but rather that its principal purpose should be to plan the rational extension of the agglomeration and the building of garden suburbs."

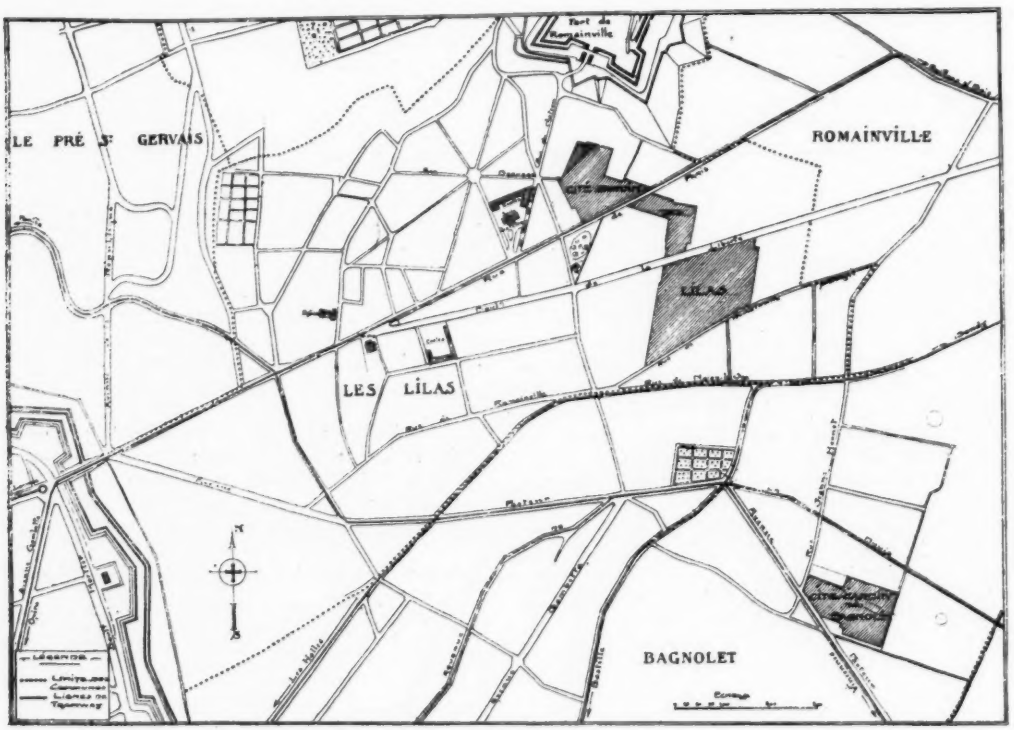
Following the spirit of its inception, the Office therefore guided itself in its work by the following program:

"To erect on ground acquired in the suburbs, under unquestionable sanitary and esthetic conditions, settlements offering their inhabitants the maximum of comfort at the least possible cost.

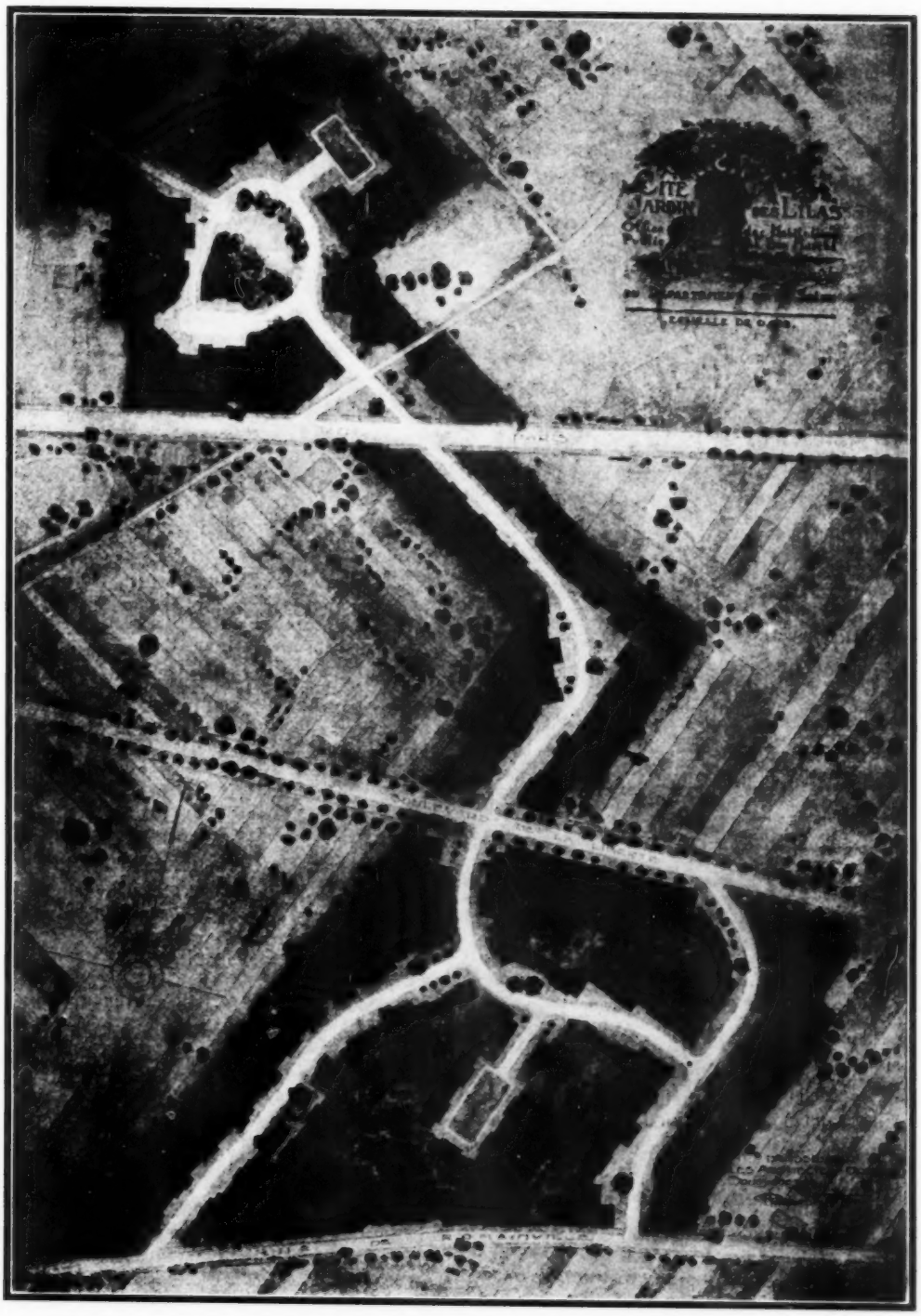
"To apply such measures as may guarantee to the community its eminent right to profit by increased valuation, the elimination of every kind of individual speculation and the safeguarding of those æsthetic and sanitary regulations which are the basis of its projects.

"To limit, insofar as it is compatible with economic necessity and social needs, the erection of collective dwellings, constructing by preference individual houses, either detached or attached, according to the architectural scheme."

Although the spirit of this program pervades the book, no indication is given what, if any, measures have been adopted restricting speculation, whether or not any of the houses are to be sold, or of the terms of lease or sale of individual houses.

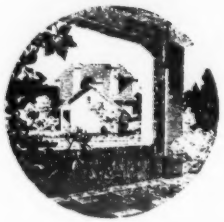



RELATION OF GARDEN SUBURB OF LES LILAS TO PARIS



The Garden Suburb of Les Lilas

OFFICE PUBLIC
DES HABITATIONS
A
BON MARCHÉ
DU
DEPARTEMENT DE LA
SEINE



FAÇADE LATÉRALE
TYPE 4

TYPE 1

REZ DE CHÉE : PORCHE D'ENTREE, SALLE A MANGER CUISINE, 2 CHAMBRES), CELLIER W.C
PREMIER ETAGE : 2 CHAMBRES, DEBARRAS

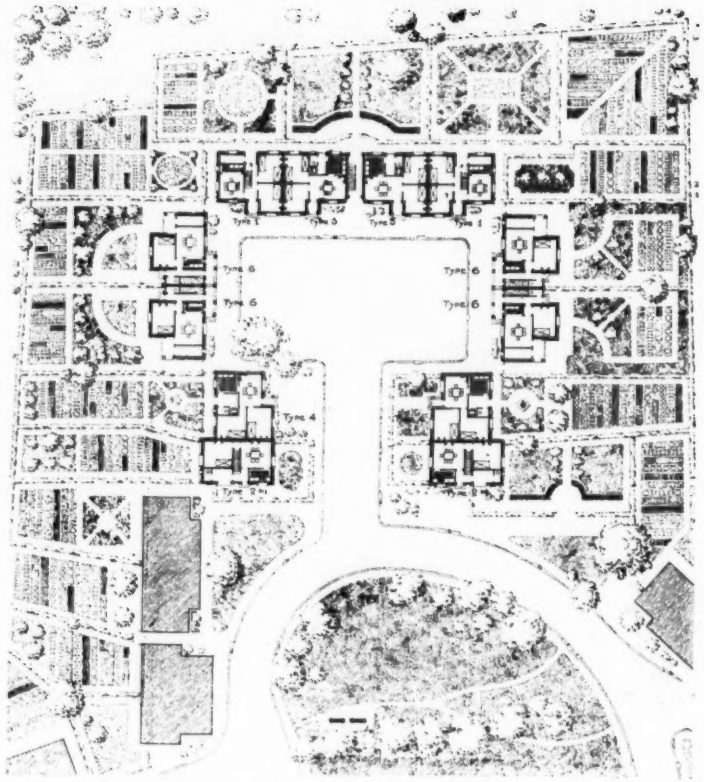
TYPE 2 bis

REZ DE CHÉE : ENTREE, SALLE A MANGER, CUISINE 1 CHAMBRE, DEBARRAS, CELLIER, W.C
PREMIER ETAGE : 2 CHAMBRES

TYPE 4

REZ DE CHÉE : PORCHE D'ENTREE, SALLE A MANGER CUISINE, 2 CHAMBRES), CELLIER, W.C

FAÇADE SUR JARDIN TYPE 6




PLAN DU REZ DE CHAUSSÉE

CITÉ JARDIN
DES LILAS GROUPE
DE
DOUZE PAVILLONS
DES
TYPES 1, 5, 6, 4, ET
2 BIS

FAÇADE LATERALE
TYPE 6

TYPE 5

(2 LOGEMENTS SEPARABLES)

REZ DE CHÉE : PORCHE D'ENTREE, SALLE A MANGER CUISINE, 2 CHAMBRES), CELLIER, W.C.
PREMIER ETAGE : SALLE A MANGER, CUISINE, W.C. 2 CHAMBRES, DEBARRAS

TYPE 6

REZ DE CHÉE : LOGGIA, SALLE A MANGER, CUISINE 1 CHAMBRE, CELLIER, W.C. APPENTI
PREMIER ETAGE : 2 CHAMBRES, DEBARRAS

FAÇDE JARDIN TYPES 4 ET 2 bis

P PELLETIER - A TEISSEIRE
ARCHITECTES

GROUP OF HOUSES IN LES LILAS

FAÇADE PRINCIPALE

P. PELLETIER - A. TEISSEIRE
ARCHITECTES

OFFICE PUBLIC
DES HABITATIONS
A
BON MARCHÉ
DU
DÉPARTEMENT DE LA
SEINE

FAÇADE LATÉRALE

CITÉ JARDIN
DES LILAS. GROUPE
DE
DOUZE PAVILLONS
DES
TYPES 1. 5. 6. 4. ET
2 BIS

GROUP OF HOUSES IN LES LILAS

### Results Accomplished

The work of the Housing Office of the Department of the Seine may be divided into two categories: temporary and permanent measures. Its efforts have been confined to the suburbs, leaving the city itself to the care of the Municipal Council, which has had F.200,000,000 at its disposition for housing purposes since 1912.

In order to afford some measure of immediate relief, the Office bought, in the suburbs, a number of apartment houses which had been started but left in omplete on account of the war. These were completed as fast as possible and rented. Semi-permanent bungalows were also erected on a tract of land at Bagnolet.

As soon as the initial appropriation was made, the Office started its study of location of the proposed garden suburbs. To avoid the delays entailed by a public competition, the architects who were successful in the Paris Housing Competition of 1913 were chosen to study the new developments.

Owing to the high prices of materials and labor immediately after the war, the Office deemed it inadvisable to proceed at once with new construction. It was not until 1921 that work was started. In the meantime, its architects and engineers entered into extensive study of their problem. Not only were the properties acquired studied from the point of view of transportation, sanitation, water supply, etc., but the experience and practice of foreign countries were examined with great care and the resultant plans show strongly the influence of this preparatory work.

The general layout of the garden suburbs show a very strong English influence, whereas in the grouping and elevations of houses, both English and American models seem to have been widely consulted. Where tenement houses form part of the scheme, they follow traditional French models.

The typical accommodations furnished consist of either a common room or a dining room and small kitchen, one to four bedrooms (most commonly two or three), and a water closet. In some cases a fuel and wine shed is furnished and occasionally a small porch. Bathrooms appear in none of the plans, although some of the suburbs provide common bath houses and laundries. Closet space is uncommon. Fireplaces are the only means of heating.

About half of the dwellings are planned for large families, that is: those having four or more children. Families with five children are provided with only three bedrooms. In view of the fact that the bedrooms, except those of the parents, are all quite small, this allowance seems entirely inadequate, and if the original intention of accommodating large families in such quarters is carried out, serious overcrowding will result.

Since the start of building operations, progress has been made toward the realization of the schemes laid out for Drancy, Bagnolet, Suresnes, Les Lilas, Stains and Arceuil. The reproduced illustrations of the garden suburb of Les Lilas will give a conception of the typical method of approach, layout of the land and details of the houses.

At the end of July, 1922, the Office had completed 797 dwellings in small houses, both temporary and permanent, and 169 in tenements. For 1923, a program of 2,000 small houses and 225 tenement dwellings will be attempted, it is announced.

## Community Planning and Housing

CLARENCE S. STEIN, *Associate Editor*

### The Future of Our Big Cities

As a result of their haphazard and planless growth, the gigantic cities of the old and the new world are gradually becoming more hopelessly unable to carry on their work. Size does not add to efficiency. In both New York and London it seems to decrease it. And yet both cities accept their probable colossal future growth not only without complaint but with self-satisfaction.

Dr. Walter Laidlaw, the Executive Secretary of the New York City 1920 Census Commission, wrote in an article in the New York *Times* of 10 December, 1922:

"In 2020 if the rate of growth of 1910-20 should be preserved for the next hundred years, the city proper would have 14,408,048. But 9,000,000 people are about all that the city could comfortably sustain. If we place the population per acre on a level slightly under the 100 mark it will just about work out to the ultimate humane goal of 9,000,000. It would be much better if we could restrict our population to an average nearer fifty to an acre, but that probably is too much to expect.

"Circled New York (all the area within 19 miles of City Hall), passed Greater London on 21 September, 1916. To see how fast we have grown up it is only necessary to look at the figures. In 1890 we had 3,326,998 within the circle; by 1900 the total had become 4,612,153; in 1910 it was 6,491,659, and in 1920 we had 7,820,676 against 7,480,201 for Greater London a year later. If the rate of growth in the last ten years was kept up, we would house 21,512,116 within the circle by 2020, and 14,408,048 in the City. But if the city some day should become a metropolis having 300 people to an acre, as it now has in 2,866 acres, the population would reach the huge total of 30,000,000. If we plunged deeper into possibilities, and imagined that half the city should have an average such as that in its most densely settled district, above 600 to the acre, we would get a truly staggering total of 60,000,000."

In New York the subways are packed, the roadways are black with slowed-up traffic. If the city grows much more it looks as though Fifth Avenue would congeal into a single immovable mass. Police Commissioner Enright admits that he has come "to the end of the rope." Nothing more can be done with one-way streets or flashing lights or policemen's batons to lessen the congestion of central New York or to speed the slow-moving traffic.

Dr. John A. Harriss, special Deputy Police Commissioner in charge of traffic regulations, however, seems more hopeful. He proposes the cutting of crosstown boulevards 360 feet in width through the sections in which traffic is most often tied up. The first of these, somewhere between 42nd and 59th Streets from river to river, he estimates would cost seventy million dollars! And this is only part of the price we must pay for the pleasure of boasting that New York is the biggest city. Dr. Harriss is not satisfied with the difficulties of the present congestion. He is looking for even harder problems. He says: "As I visualize and imagine this vast city with its limited available land fast being built up, I can picture New York within 100 years with a population of 25,000,000, as follows:

"1. Battery to Fourteenth Street—Storage and provision warehouses.

"2. Fourteenth to Forty-second Street—Manufacturing and wholesale buildings.

"3. Forty-second to Fifty-ninth Street—Financial. All north and south avenues and streets commercial and office buildings.

"4. Fifty-ninth to 110th Street—De luxe shopping district.

"5. 110th to 125th Street—Additional shopping district.

RESIDENTIAL

"6. 125th Street to Harmon, across Westchester to Long Island Sound to the State line of Connecticut, crossing many new concrete drawbridges over the East River to Queens, which is destined to be thickly peopled, and extending far into Long Island. Riverside Drive will always remain residential from Seventy-second Street and will provide superb residences all the way to Poughkeepsie."

What a chance for the traffic and transit experts! Think of the new and expensive subways and boulevards they will be able to cut so as to relieve congestion if Dr. Harriss' grotesque dream should come true!

New York's problem is not unique—it is apparently not a result of the peculiar geographical position of its centre, the island of Manhattan. London also has grown haphazardly and by the absorption of what were villages around the metropolis. The *Westminster Gazette* of 21 November says of London's traffic problem: "Most insistent of all the difficulties of this great London is the movement of its population to and from the daily work. For half a century past every new device has been tried. Railways have been made underground, the whole tramway system has been changed in a mechanical direction, and has been extended north, south, east and west. The motor omnibus has replaced the horse vehicle, the motor-cab, the "growler" and the hansom. Yet London is more congested than ever, traffic through its streets more difficult, the time spent in getting to and from work more prolonged. A less courageous people might give up the puzzle in despair, affirming that, as Londoners travel more the more the facilities for travel are increased, it were better to call a halt to improvements. Happily, London makes no such answer. From every point of view it is an immense benefit to public health and well-being that the capital should extend ever outwards, giving its new citizens fresher air and happier home conditions than they could find in a London which ever leapt upwards higher and higher, in the manner of the centre of New York. The resulting movement daily of a large population over longer distances is a task that we feel can be surmounted. The streets may be unduly congested, but we can delve underground for the means of quick transit."

And so London sinks more millions into subways as does New York. As a result the circle of thickly populated regions that pours its multitudes into the congested business center grows greater and greater. Where is the end?

## International Garden Cities and Town Planning Federation Conference in Paris

As a result of the postponement of the Rome Conference of the Congrés International de l'Habitation which had been arranged for September the Conference of the International Garden Cities and Town Planning Federation was held at Paris on 21 October. Delegates and members attended from Austria, Belgium, Denmark, Egypt, France, Great Britain, Holland, Ireland, New South Wales, Spain, Sweden and Victoria. M. Louis Bonnier, President of the French Section, presided in the absence of Mr. Ebenezer Howard. The delegates to the Conference, besides visiting a large number of housing schemes in and around Paris, devoted one day to a visit to Rheims. There they inspected the Cité Jardin Le Foyer de Remois, a development of some seven hundred houses which is being erected by a limited dividend Society under the presidency of M. Ceharbonneau.

Papers were presented on "The Future of the Garden City Movement" by Senator Vinck of Belgium, Henri Sellier of France and G. M. Harris and C. B. Purdom of England.

MR. H. CHAPMAN, the Organizing Secretary of the Federation, in speaking of "The Garden City Movement in relation to Town Development in the Future" said in part:

"The Garden City movement has been confused in people's minds with forms of site-planning, fashions in architecture and semi-philanthropic housing; it has also been confused (possibly because the term 'garden city' sounded so well in those drab 19th century days when it was first used), with visions of an Earthly Paradise, expensive and uneconomic and only within the reach of a limited few under very favorable circumstances. There has also been to a slighter extent another misconception as to the aim and scope of our movement. We are not merely concerned to work for the building of new towns such as Letchworth and Welwyn; our duty is a much greater and wider one than that. These two garden cities must be recognized not as patterns or moulds for cutting out or moulding similar cities but as demonstrations of efficient, economic and organic town building to provide for their inhabitants the best material basis for the development of agriculture and private and corporate life. Geographical, geological and other conditions will vary in different countries and in different parts of the same country, fresh knowledge will come with wider experience

so that the type of town should improve upon what we have.

"Our principles must be applied with full allowance for all the varying factors. We must re-create a feeling, an affection, for towns that was once widespread and has in most countries been almost non-existent for so many generations that our task is made heavier by the lack of tradition. In the middle ages, particularly in the time of the guilds, this town spirit thrived, men thought of themselves not only as members of their profession or craft but as citizens of their town, and communities were knit together as no town communities have been since. It is not necessary to enlarge upon the examples of civic art they left. It is true that little was known about sanitation, preventive medicine and many other necessary sciences for the development of towns, but the point is that the towns did function, they were organic, and as far as one can judge they fitted their time and civilization quite well. It is true also that life is much more complex now and that we could not, even if we would, produce the same kind of corporate life. A complex life is a good thing on the whole; it is well to get a variety of experiences; but many of the experiences of those who live in the great city agglomerations, such as London, Paris, Berlin and New York, are not necessary and certainly not pleasant."

Sir Theodore Chambers said in reference to the "Garden City as a demonstration of Economic Town Building":

"Most people who have given any thought to the subject admit readily the social and economic advantages to be derived from a city consciously designed, and deliberately brought into being, upon a carefully selected area of undeveloped virgin land unencumbered with the restrictions imposed by vested interests and the mistakes of the past. They see that there is no physical difficulty in starting anew and planning a town which will provide better conditions for both industry and home life.

"Nevertheless very few garden cities are built. The reason for this is that they cost money. Not a great deal of money. Far less than most people would imagine. Still they demand capital. Now capital, at least under the régime in which we are living (and whatever some people may think, it will probably ever be so) demands a 'paying proposition.'

"Few people believe that the building of a new city is a financially sound business. It is the object of this paper to justify the garden city as a 'financial proposition' and to show that given sufficient courage, energy, foresight and patience combined with technical knowledge the building of a new town is a commercial project of the first rank, beset with less than the normal trading risks, and this by reason of certain intrinsic and economic factors which place it quite definitely in front of very many industrial enterprises for the development of which, owing to custom and habit, capital is readily forthcoming. The secret of this assurance lies in the basic fact of the land values which the presence of a community inevitably brings into existence. The essential element in the finance of the new city is the absolute ownership of the land upon which the town is built and of a sufficient area surrounding the town to constitute a complete land monopoly, so that the land values created will for all time be the property of the promoters, their heirs and assignees. It may be stated, parenthetically, that it is the realization of the fact that immense land values are created by the presence of population that has led the pioneers of the movement in England to lay stress on the desirability of so constituting the financial machinery of the enterprise that the dividend accruing to the capital raised shall be reasonably limited, the surplus profits being used for the benefit of the city and its inhabitants—or to put the matter in another form—that the land of the city shall be held in public ownership or else held in trust for the community."

Mr. C. B. Purdom who has taken such an active part in the development of Welwyn outlined its brief history as follows:

"The second garden city was established in 1920 by the formation of another joint-stock company called Welwyn Garden City, Limited, and the purchase of an estate of about four square miles in Hertfordshire, 20 miles from London and about 13 miles from Letchworth. . . . A town has been planned for a population of about 50,000 inhabitants. . . . The estate was carefully surveyed in the first instance and a plan prepared by the company's architect for a complete town with industries. The cost of the land was just under £40 an acre.

"The business of the company involved amongst other things the construction of roads and sewers, the provision of a drainage system and other public services, such as water and electricity supply, and the disposal of the building land so developed. The net disposable area of the estate for houses, commercial buildings, factories, etc., is about 1,500 acres, after providing parks, etc., and allowing for the agricultural belt.

"In spite of the extraordinarily difficult economic situation that has existed since the scheme was started its progress has been remarkable. The land when purchased was purely rural country upon which no building had been done for several generations. The opening of the new railway station on the main line and the provision of public services has entirely transformed the character and value of the estate.

"Nearly 400 houses have been built, with a number of workshops; a large engineering works is being established, and an important confectionery manufacturing business is about to be removed there from London. The population is rapidly approaching 2,000.

"In place of the usual small shops that are usually built in the early stages of a growing town a large departmental store has been opened by a society formed for the purpose under expert management, the capital being specially subscribed; the surplus profits of this enterprise will go to the town. It is intended to attempt to make the town a shopping centre for the whole district."

The New Town Agricultural Guild has been formed by a group of people interested in the garden city and in the improvement of the agricultural industry to undertake the development of the agricultural belt and is providing a pure milk supply for the town as well as market gardening produce.

The capital for Welwyn Garden City has been obtained in the form of shares and mortgages and debentures and loans and up to date is as follows:

| *Shares* | *Mortgages and Loans* | *Debentures* | *Total* |
|---|---|---|---|
| £115,719 | £126,483 | £77,000 | £319,202 |

Interest upon the mortgages and loans and debentures has been paid, but no dividend has yet been paid upon the shares. The net revenue for 1921-2 (which was the second year of the company's existence), amounted to £5,015.

An important factor in the company's finance are the loans made by the Public Works Loan Board under the

provisions of the Housing Act of 1921. Under that Act the State may lend money to approved bodies for the purchase of land and the construction of roads, sewers and water supplies required in garden cities at (at present) 5 per cent, the loans to be repaid over a period of from 15 to 60 years (according to the character of the works). The amount of the loan is not to exceed the cost of the particular works and is limited to seventy-five per cent of the value of the property (i. e., real estate). Welwyn Garden City, Limited, has already been advanced, under this statute, the sum of £115,983 (included in the above figure of £126,483), to be repaid over 30 years. The statute is likely to prove of great importance to the future of the garden city movement; for it is evidence, in a practical way, of the recognition by the State of the public value of real garden cities."

# Sub-Division of Labor--III

*By* FREDERICK L. ACKERMAN

In the two preceding papers reference was made to the ever contracting frontiers which serve, as time goes on, to mark off the divisions of labor; how it is that the machine process is working out to reduce the need of skill on the part of the workmen engaged in it; how this has created a situation in which such handicraft industries as the building trades are handicapped in maintaining a sufficient quota of workmen. Reference was also made to competition between the various trades in a single industry and the jurisdictional rules and the consequent strikes, and the lockouts which grow out of this competition and which operate to retard production. Attention was called to the curious fact that the jurisdictional rules of the unions are not to be clearly distinguished, when viewed objectively, from the systematic procedure in the machine process as the same has been formulated by the modern production engineers, although these rules are viewed as sabotage while the recommendations of production engineers are accepted as made in the interest of producing a greater volume of goods. It follows to point out another matter.

In what has preceded, the terms "labor" and "division of labor" have been used to cover the activities of "workmen." But it is ordinarily taken for granted that there is more involved in producing goods than manual labor and the movement of machines. Goods are ordinarily assumed to be a product of the activities of business men, bankers, engineers, scientists and "labor." So that the specialized activities of all these could be viewed as sub-divisions of labor in the sense that they are assumed to contribute toward the production of goods. Opinion, aside from that held by "labor" and a few others, would have it that it was primarily activities of the business men and the bankers that make the wheels of industry go 'round—that is to say, produce goods. Hence, none of these need feel hurt to be rated as laborers and to have their specialized activities referred to as divisions of labor.

But so to rate what they do and so to classify their activities is to imply what is popularly understood to be the case—that the aim of all who are in any way engaged in production is the production of goods—that is to say, such a volume of goods as may be produced, "labor" permitting, by the material ways and means at hand. That some are primarily interested in using the material ways and means of production may be true, for example, of the engineers and the scientists—or it may not. But it is not true of the others, for their central interest is limited to the field of price or the "market."

For profitable business will not stand for so large a production of goods as the community needs for current consumption. This is a commonplace, of course, which is well understood. So that no more need be said in support of the assertion that the central interest of all who engage in the production of goods and services is unavoidably in the maintenance of supply at a point appreciably short of the communities' need, or more precisely, short of the communities' effective demand.

When production was carried on by the processes of handicraft and distribution was accomplished by the means of petty trade, the maintenance of this relationship was of no very great concern. At least individuals could ordinarily look out for their own interest in this respect without very serious effects upon the community at large. But machine industry is vastly more productive and the distribution of goods is no longer a matter of petty trade. So productive is the machine process that it cannot possibly be allowed to run at anything like its capacity. For to allow it so to run under distribution regulated by the price system would be to bring privation and hardship not only to the producers, but to the community as a whole.

So that there has grown up under the operation of the price system a new function in connection with production. No longer does the common welfare hang on the ability to produce; it now hangs upon the success which attends control of production, or in other words, upon retarding the use of our material plant and equipment and the workmen employed. So that in final analysis, strikes, lockouts and jurisdictional rules on the part of workmen fall into line with what must be done to save the day for price and profit. But the retardation effected by what organizations of workmen may see fit to do in their own behalf is after all not to be depended on; neither is it sufficient.

So that steps have to be taken by others to bring about a curtailment of production and a withholding of goods from sale which will take effect at the proper time and place. The bulk of testimony given before the Lockwood Committee in its inquiry into conditions in the building industry was largely given over to the ways and means of controlling output in the interest of price. Other inquiries elsewhere run to the same effect. It is not necessary, however, laboriously to read the testimony of official investigations nor the more scientific inquiries made recently by groups of competent engineers in order to gain an insight into the rapidly developing methods of throt-

tling the productive capacity of the industrial community. In the daily press a large proportion of the news items carried on the financial pages treat of what "Trade associations" are doing in the interest of stabilizing the market —regulating production in the interest of price; of how the government forecast and reports of production are used to determine the extent to which efficiency should be withdrawn in the case of a given commodity; of how usual it is for groups of producers to organize locally, by states or groups of states or even nationally and internationally, to the end that the facts concerning supply may be known so that production may be duly curbed if need be in the interest of price. One of the important functions of the use of loan credit has come to be that of valorization. The use of national credit for the purpose of withholding a commodity from the market or of sustaining a given group of producers while they proceed with plans of withholding their productive effort pending a rise of prices is not questioned, seriously.

Obviously to sustain activities of this sort extending over vast areas and in which millions of producers are concerned requires the labor of a considerable army of accountants, statisticians, of clerks, heads, directors, and officers of associations and corporations and of departments of the state. So that it is in a very definite sense that the modern situation reveals something new in the line of sub-division of labor in that a very considerable number are now exclusively engaged for pay at doing what is called work, the outcome of which is to reduce the volume of goods produced.

On the face of this, so accustomed are we to the operation of the piece system, it may appear that such a new division of labor is necessary under the inordinately productive machine process. But a little reflection should serve to dispel that error. If a community may not consume what it is fully capable of producing, the fault lies clearly in the system of distribution. Hence the direction to take in search of a remedy should not be at all difficult to see.

There is no doubt the point will be made that these economic discussions have nothing whatsoever to do with Architecture; that they lie wholly outside—alien to the architect's proper interest. And it will be reiterated that it is taking quite unnecessary risks so to peep at these singular circumstances and facts.

But that is to agree. For the purpose in so referring to these singular circumstances and facts has been to suggest that as such they stand to block the way toward well building at every turn. Such conditions as are covered by the terms "Housing Problems" and "City Planning Problems," the inadequacy of buildings in urban centers with respect to utility when related to our knowledge and ability to plan adequately, the peculiar flimsy, shoddy, non-durable character of the bulk of modern buildings, the waste, the sham, the pretensions of modern building—all this is the outcome, the material expression of these singular circumstances and facts. So that the critic who objects that such economic discussions have nothing whatever to do with Architecture, that is, well building, is right to this extent; the discussion concerns itself with the circumstances and facts out of which Architecture is not made.

## London Letter

There is no doubt that the exhibition of American work held last winter in the R.I.B.A. galleries has had far reaching results, not only through the renewed interest it has awakened in the achievements of American architecture, but in stimulating a desire on the part of English architects to display their work in similar fashion.

This latter fact has been evidenced by the ever-increasing dissatisfaction which is expressed, particularly among the younger architects, at the system generally in vogue in England of organizing architectural exhibitions. The Royal Academy encourages by its regulations the display of drawings which are an end in themselves—elaborate perspectives which gloss over with wash and even seccotine the dry and commonplace designs which they too often illustrate. Buildings without interest of form or texture are made to glow with reflected light, and the deposits of an earthy color-blend lend a richness to materials which in execution may appear hard and drab. The practice has led to the employment by architects of specialists who can convert the most unattractive design into a semblance of beauty, and whose skill with pencil and brush redounds to the credit of the building's often uninspired creator. It would almost appear that the "manner" of one of these able perspective artists exerts an actual influence on design, so strong is the superficial resemblance between the works of different architects illustrated by the same hand. And one sees at the Royal Academy the extraordinary occurrence of almost a wall-full of drawings from one hand, with the same tricks of expression applied alike to War Memorials and Factory.

The American Exhibition made us for the first time realize the true significance and possibilites of architectural photography. The work shown was illustrated by portrayals of reality, photographs which were in themselves beautifully composed, and in which the subject was in most cases truly and admirably shown. There were beautiful drawings in plenty, but the backbone of the Exhibition was certainly the collection of photographs. Photographs have not reached the pitch of veracity enjoyed by the science of geometry. They can and do lie; and there is a danger that much of the solemn mystery lent, let us say to a great interior, by shimmering light and mysterious shadow, is largely the product of a photographer's skill.

But there can be no real comparison here with the ready "faking" of architectural perspective. The executed building is the architect's acid test, and the best means of portrayal is the photograph, since the model cannot be considered on the score of expense and space and for the reason that to the uniniated it is full of pitfalls of deception. The public and the architects who visited the American Exhibition were impressed where the Academy would have left them unmoved.

Proof of the fact lies in the composition of the proposed exhibition of executed work to be held next month at the R.I.B.A. It is safe to prophesy that photographs will come into their own, and that the mysterious drawings of the "House for Mr. X," unsupported by evidence of execution will be pitilessly banished. And at next spring's projected exhibition of "Twenty Years of British

Architecture," to be held by the recently formed "Architecture Club," the triumph will be complete—"Drawings except of the postage stamp variety are excluded," says Mr. J. C. Squire, the President, "as the show is primarily meant for the general public."

As an indirect result of the American Exhibition may be cited the interesting proposal under consideration by the Society of Architects for a student scholarship tenable in America, for the purpose of studying modern American work. Such a scheme is in line with enlightened efforts of the Society in the direction of Architectural education.

The Faculty of the British School at Rome has, we understand, been approached at various times with the idea of allowing Rome students to terminate the period of studentship by a trip to the States. Similar privilege has been granted to a limited extent in respect of European countries, and the inclusion by America is probably only a matter of time and gentle but continuous pressure.

A certain amount of curiosity is permitted as to the result which may be expected from the publicity which has recently been given to the work of the younger and more "advanced" School of Dutch Architects.

Many photographs and descriptions of modern Dutch work have appeared since the visit last year to the Achitectural Association of Mr. Keppler, the Director of Housing in Amsterdam, and a large number of members of the Association paid a return visit to Holland in September. The general opinion seems to be that the exponents of the more fantastic expression in design will tire their public and find themselves supplanted by men who will crystallize their work into soberer forms. Although the advanced Dutch School professes to scorn tradition or copyism from other countries, yet it is easy to see the reflection of Dutch tradition in this very modern work, and an even more frank architectural indebtedness to such men as Frank Lloyd Wright, reproductions of whose designs are in the hands of many a Dutch student, and whose influence may be seen in more than one executed building in Amsterdam.

At the time of writing the new Council of the R.I.B.A. is hard at work upon its Registration Bill, upon the success of which the Council depends if only to justify its existence in its present form. The Council was elected for the unanimity of its members in desiring Registration before Unification. The former Council desired Unification first, and then Registration. The aims were the same, but each body saw its attainment through a different line of action. The Non-Unification group has been victorious, and in recent elections have thrown overboard nearly all the old members, men of great architectural eminence, who had served the Institute well and faithfully. The new Council with a few exceptions represents the "business" side of architecture as opposed to the "design" side. It is being watched with critical eyes, and one feels that the political storm which recently burst in the architectural sky may soon again appear on the horizon.

The *Architects' Journal* announces, in a recent issue, a proposal made by the Board of Architectural Education for the holding in London of a Congress on Architectural Education. The announcement is certainly a little premature, as one judges that the Council of the R.I.B.A. has not yet given formal approval.

The Congress would be held at some date in the autumn of 1923, and would be international in character. The principal architectural schools of the world would be invited to send exhibits of their work and the aim of the Congress would be to discuss the present systems of education and investigate methods of advance and improvement. Such a Congress would be of first importance to architectural progress, and in addition to its immediate effects on education would tend to increase the solidarity of the architectural profession in an international direction. X.

# The Secretary's Page

REAL progress has been made by the Apprenticeship Commission of the Building Congress in relieving the shortage of skilled workers in the building industry in New York City. Two hundred and fifty young men have already received apprenticeships in the painting and decorating trades, and developments along this line are under way in the brick laying, tile setting, mosaic, sheet metal, plastering and other trades. Frank L. Glynn, Managing Director of the Apprenticeship Commission, said that the cooperation of unions and employers in this work has been exceptional. The Board of Education will also aid in working out the program of the Congress.—*N. Y. Chapter Bulletin.*

ARCHITECTS desiring to obtain registration transfer to another State now have the way opened through two precedents of late date. Those who were registered in New York through exemption may apply to the Board of Examiners, Mr. William P. Bannister, Secretary, 339 Lexington Avenue, for what is known to the National Council of Architectural Registration Boards as a Senior Examination. They should also apply to the National Council of Architectural Registration Boards, Mr. Emery Stanford Hall, Secretary, 1107-64 E. Van Buren Street, Chicago, Illinois, for the necessary blanks and make application to have their credentials examined and placed on file so that they may obtain the transfers that can be operated through the National Council of Architectural Registration Boards. A draft on Chicago for $15.00 should accompany the application to Mr. Hall.—*N. Y. Chapter Bulletin.*

UNDER authority of a vote of the Town of Needham, Massachusetts, on 27 March, 1922, a special committee was appointed to procure plans for a high school building, and as a result of a competition conducted in May last, by said committee, the program of which had the approval of the Chapter's sub-committee on competitions of the American Institute of Architects, the design of one of the competitors was unanimously selected and recommended by the Jury as the winning design, and so declared by said committee, then representing the town.

At a subsequent meeting of the town there was opposition to the lot that had been proposed, and another committee, the personnel of which, in part at least, is the same, was appointed to report its recommendations, including choice of site, plans and estimates, with power to employ an architect to prepare the drawings and speci-

fications on which *bona fide* estimates of cost should be based, and a sum of money to include architect's services was appropriated for the purpose.

The architect of the winning design had, at the request of the former committee of the town, for the purpose of presentation at a town meeting, prepared a water-color perspective drawing of his design, furnished a preliminary estimate of approximate cost and advised as to the cost of developing his design for the purpose of securing actual bids as above, and believes that his advice may have been instrumental in the procurement of the appropriation for that purpose.

The present representative committee of the town has decided on the site, and it appears has been instrumental in having certain questionnaires sent out to various architects, including the winner of the competition, indicating that they do not recognize that the town is under even a moral obligation under the competition it caused to be instituted, and which provided—as its then committee recognized—for a compensation decidedly nominal in character.

Communities should recognize their obligations, as do private individuals, and there certainly is no incentive to enter competitions for public work if an award under a supposedly safeguarded, and properly drawn program is to be held so lightly that a change in personnel of the community's representative body is understood also to mean the repudiation of its acts on behalf of its community.

The Professional Adviser, Jury and Competitors were all members of this Chapter, and in the opinion of the Committee on Ethics and Competitions it would appear to be unethical for members of this Society, other than the winner of the competition, to endeavor to secure an appointment as architect of this building.

Committee on Ethics and Competitions, by J. LOVELL LITTLE, Chairman.—*Bulletin of the Boston Society of Architects.*

AN EXPRESSION of appreciation for the exhibit arranged under the auspices of the Institute has been received from Mr. Howard Silkey, Chairman of the City Planning Committee of the International Health and Safety Exposition held recently at San Francisco.

THE TWENTIETH annual convention of the Iowa Chapter was held in Chicago, 23-24 October. The popularity of the innovation of Chicago was attested by the good attendance, there being twenty-four members present, many of whom were accompanied by their wives.

The convention was opened with a short address by President Cleveland, who introduced Mr. Louis Sullivan as the principal speaker of that session. Mr. Sullivan's talk, in the main, was based on "The Autobiography of an Idea," now appearing in the JOURNAL. There may be many who are not in accord with Mr. Sullivan's ideas, but certainly none who heard him could doubt his deep sincerity, nor withhold admiration for his courageous defense of his convictions.

Prof. F. R. Watson, of the University of Illinois, gave an illustrated lecture on Architectural Acoustics, and there were addresses by Irving K. Pond, an illustrated lecture on School Planning by Dwight H. Perkins (given at the office of Perkins, Fellows & Hamilton), and an address on "Research in Building Materials" by Milo S. Ketchum, Dean of the College of Engineering, University of Illinois.

The subject of Mr. Pond's address was "Some Modern Tendencies in Art." The following are a few extracts:

"Art is at bottom a matter of temperament and emotions."

"Instinct and emotions are the parents of Art."

"The law of Affinity is the greatest law of Nature."

"Fixed laws in art creations are absurd."

"The growing tendency of the straight-jacketing of Art is to be deplored; example: license and registration laws."

"Technical schools never were of value to Art."

"Art Commissions are insolent and stupid."

—*News Letter of the Iowa Chapter*

AT THE farewell luncheon to Mr. W. R. B. Willcox, given by the Washington State Chapter, Mr. Gould reviewed for the members present the long and interesting term of service that Mr. Willcox has given to the Institute and to the Chapter; paid many well-deserved compliments to Mr. Willcox for the inspiration of his example in the Chapter and bade him God-speed in his new work as professor in charge of the Department of Architecture at the University of Oregon. Mr. Alden, after equally friendly references to the love and esteem which the Chapter bears to Mr. Willcox, presented him with an engraved pin of the Institute. Mr. Willcox responded all too modestly and the meeting closed with friendly farewells and good wishes for both Mr. and Mrs. Willcox in their new home.

AT THE November meeting of the Washington State Chapter, Mr. Harlan Thomas said that he had been studying the evils of "no-zoning" and was forcibly impressed with the results, after his recent visit to twenty American cities where these evils were so apparent. Mr. Thomas felt that the architect in his training should be equipped to advise, not only as to the planning of the building, but as to the proper type of building to be constructed in a given location, and particularly public buildings. He believed that stores, office buildings, theatres, banks, wholesale buildings and others, should be localized in given districts in order to reduce the growing traffic problem. He mentioned the fact that Seattle is not static in this regard. In connection with Mr. Thomas' talk, Mr. Alden spoke for the zoning commission and asked that the Chapter give its help to the commission in preparing that portion of the ordinance regarding the percentage of areas to be covered by buildings of various types.—*Washington State Chapter Minutes.*

AT THE November meeting of the Milwaukee Chapter, Mr. Albert Kelsey gave an address on "Inspired Works in Products of Clay," illustrated by a series of novel and unusual views of St. Peter's, and followed with some interesting views of Central American Architecture, showing the use of tile, and with views of the Pan-American Building at Washington and the Orphan Home near Philadelphia.

Mr. D. K. Boyd showed pictures of modern American tile installations, as used in connection with exteriors as well as interiors of buildings, public and private.

## Public Information Page

The Public Information Committee has received a letter from Ethel B. Power of *The House Beautiful,* published by the management of the *Atlantic Monthly,* 8 Arlington Street, Boston, who says that they are paying special attention to domestic architecture, that there is always an unlimited demand for examples of good house architecture and that they are at all times glad to receive photographs of work from different architects and to publish such as are suitable for their magazine, giving proper credit to the authors.

Several of the Chapters issue interesting bulletins. Will the secretary of each Chapter doing this make it a point to see that a copy of the bulletin is sent to the Chairman of the Public Information Committee of the Institute as soon as it is released?

This month sixteen reports have been received and the greater number of these have matter of considerable interest for the other Chapters. Some of the Chapters are continuing or have inaugurated an energetic activity as the following excerpts show.

THE SAN FRANCISCO CHAPTER is pressing forward publicity work along the line inaugurated by the Washington, D. C., Chapter last year. Meanwhile H. C. Allen, Chairman of its Public Information Committee, is drawing up a circular of information to all persons interested in building operations somewhat similar to the pamphlet issued by the Iowa Chapter in 1920. It plans to print about 5,000 for distribution among real estate offices, contractors, the Chamber of Commerce, the Builders' Exchange, material dealers and Chapter members to explain the duties and functions of an architect. They have also set aside $250 as the nucleus of an educational fund to be enlarged by private subscription. As soon as this is large enough they will use the interest for prizes for annual contests among junior draftsmen.

It will be of interest to all the Chapters to know that the Public Information Committee of the Institute is working on an Institute document on the Functions of the Architect in the hopes that this may relieve the separate Chapters from issuing independent pamphlets.

THE ERIE CHAPTER is a new one and received its Charter last June. They have begun to work energetically on local matters, notably on the Building Code and have combined some of its meetings with the Erie Art Club.

THE RHODE ISLAND CHAPTER is cooperating with representatives of the Providence Real Estate Exchange, the Fire Underwriters' Association, Providence Builders' and Traders' Exchange, the Master Builders' Association, and the Providence City Plan Commission, looking toward a complete revision of the Building Laws of Providence. These laws will be formulated in conjunction with a new Housing Ordinance and a new Zoning Ordinance. Mr. F. Ellis Jackson, President of the Chapter, will be Chairman of an Advisory Committee. At the recent monthly meetings it has had talks from Charles Z. Klauder, Lester G. Hornby, who spoke on etchings, and Robert Whitten, of Cleveland, who is an expert on Zoning. At the December meeting R. Clipston Sturgis spoke on modern problems which face the architect.

THE KANSAS CITY CHAPTER has begun a series of lectures on Sunday afternoons at the Art Institute. The first ten will comprise lectures on the various phases of the home, the small house, its plan, design and furnishing, which will be given by Messrs. Courtland Van Brunt and Edward Buehler Delk. A second series after the first of the year will treat on the building industry and architecture as an art. Mr. Ernest O. Brostrom, the Chairman of the Kansas City Public Information Committee, says that he has obtained several suggestions from this page of the JOURNAL and as a result has taken up the publication of some articles on Architecture and the Arts pertaining thereto in the real estate sections of the local papers. They are considering talks before the various civic organizations and clubs. These should prove fruitful.

THE NEW JERSEY CHAPTER Committee through Mr. Hugh Roberts is also acting in conjunction with the State Society of Architects so that they have a combined numerical strength of 302 members. This enables them to work with the Legislature in amending laws pertaining to architecture and the building trades. The Chapter has been helpful in fostering an Atelier conducted by Ernest H. Fougner which will present problems to the Beaux Arts Society. The last is a new suggestion for this page and may well be followed by other Chapters in sections of the country where draftsmen and students of architecture who are not in college are not provided with a means of education.

JOHN V. VAN PELT,
Chairman, Committee on Public Information.

## Letters to the Editor

### Earnings on Building Investments

TO THE EDITOR:

Please permit me to call your attention to a mistake that Mr. George C. Nimmons made in his article printed in your November, 1922, issue entitled "The Passing of the Skyscraper." The tabulated statement at the bottom of Page 360 assumes that office buildings of various heights are erected on land leased at an average annual rate of $54,000.

The results given are as follows:

"Earnings on TOTAL INVESTMENT:"

| 5-stories | 10-stories | 15-stories |
|---|---|---|
| 4:36% | 6:00% | 6:82% |
| **20-stories** | **25-stories** | **30-stories** |
| 7:05% | 6:72% | 5:65% |

As the buildings stand on leased land and $54,000.00 ground rent has been included in "Overhead and Annual Expense" and deducted from "Income," it is inevitable that the "Annual Net Earnings" apply to the building only and the wording and percentages should be given as follows:

"Earnings on BUILDING INVESTMENT:"

| 5-stories | 10-stories | 15-stories |
|---|---|---|
| 10:25% | 10:36% | 10:22% |
| **20-stories** | **25-stories** | **30-stories** |
| 9:84% | 8:73% | 7:00% |

If Mr. Nimmons intended to show the true "Earnings on Total Investment" he should have omitted the $54,000 ground rent item which would have increased his "Annual Net Earnings" by $54,000. This would have given percentages as follows:

"Earnings on TOTAL INVESTMENT:"

| 5-stories | 10-stories | 15-stories |
|---|---|---|
| 6:42% | 7:51% | 8:01% |
| 20-stories | 25-stories | 30-stories |
| 8:11% | 7:55% | 6:34% |

It must be borne in mind that Mr. Nimmons does not undertake to illustrate more than the first year's experience of the several buildings, while statistics show that the useful life of first-class office buildings averages about thirty years and that land value in the central business district of our large cities doubles in about ten years.

Store rentals are always raised as land values increase, while office rents are never raised on account of increase in land values. This works greatly to the advantage of the lower buildings and more than overcomes the higher earnings of tall buildings during the first few years.

It should also be remembered that there is an investment experience as well as an operating experience. Mr. Nimmons' illustration gives the land value at $1,500,000. Assuming that the building will have a useful life of thirty years; that the land will double in value twice during the period, and that the building will depreciate 2% annually, or 60% during the thirty years, the investment experience will be as follows:

| | 5-stories | 10-stories | 15-stories |
|---|---|---|---|
| Land Appreciation | $4,500,000 | $4,500,000 | $4,500,000 |
| Building Depreciation | 664,800 | 1,232,400 | 1,800,000 |
| Investment Profit | $3,835,200 | $3,267,600 | $2,700,000 |
| | 20-stories | 25-stories | 30-stories |
| Land Appreciation | $4,500,000 | $4,500,000 | $4,500,000 |
| Building Depreciation | 2,361,000 | 3,007,800 | 3,768,600 |
| Investment Profit | $2,139,000 | $1,492,200 | $ 731,400 |

I am in full accord with Mr. Nimmons' contention that the skyscraper is passing and should pass. I have been managing office buildings for years and know from experience and observation that on any lot in any American City a low building will pay larger income and greater profit on the investment *in the long run than a tall building.* It is not only better for the investor, but better for the City to have office space spread over more land.

EDWIN S. JEWELL.

## Mr. Nimmons' Reply

TO THE EDITOR OF THE JOURNAL:

I am glad to reply to Mr. Edwin S. Jewell's letter concerning the calculations of the earning power of office buildings as discussed in my article on "The Passing of the Skyscraper" which appeared in the November issue of the JOURNAL.

Mr. Jewell contends that it was wrong to spread the net earnings of the buildings of various heights over the value of both land and building because it was assumed that the building had been erected on land that was leased. If it had been assumed or stated that the owner of the building in each case had been interested or involved in providing the money with which the building was erected, or if the object of the calculations had been to show how much profit an individual or a group of individuals might make under the assumption of any such specific example, then his statement would have been correct. But no statement was made to warrant his assumption, and it was not the object of the calculations to show any other result than the ratio of building earnings to the value of both land and building. In fact a considerable part of the article was devoted to a discussion of the earning power of buildings in relation both to land values and cost of buildings, and these calculations were made expressly for the purpose of supporting the statements made in the discussion.

As to the scheme of financing, one might add that another assumption, which would have just as much justification as the one made by Mr. Jewell, might have been made, viz., that a "Holding Company" owned the building in each case, and that it had secured a ninety-nine year lease on the ground and on the basis of this, made a loan sufficient to erect the building. In this case the Company might not have had a dollar of its own tied up in either land or building, and whatever surplus there was after paying operating and overhead expenses would, in this case, have been one hundred percent. profit. This, however, would not have demonstrated the general proposition concerned in the problem under discussion.

The calculations might readily have been based on a direct interest charge on the value of the land and cost of building, and the final results would have been the same. But a second mortgage and a ground lease were introduced simply because it was thought that the calculations might be more interesting, as a great many of our present skyscrapers were erected on such a financial plan before the existing state laws made bond issues difficult to handle on the basis of a ground lease.

Mr. Jewell's calculations of the investment experience with such buildings are interesting and suggest the raising of the question as to whether or not the modern office building will become obsolete in thirty years. Many real estate men and others have assumed that the value placed upon the average office building will have disappeared in fifty years, and that the depreciation therefore of such property should be fixed at 2% per annum. This subject has been much discussed in recent years on account of its important bearing on income taxes. Builders and architects have usually taken the position that office skyscrapers have not yet been in existence long enough to determine how long they will last. The most striking challenge to this estimate of a 2% depreciation is that the three original skyscrapers—the Home Insurance Building, the Rookery Building, and the Tacoma Building of Chicago—are each well over thirty years old, apparently as good as they ever were, and are well filled with tenants paying a higher rental for space than they ever did at any previous time.

In conclusion I wish to state as a matter of interest concerning the economic height of office buildings, that Mr. Edward M. Bassett, chairman of the Zoning Commission of New York, recently made a study and check of the calculations under discussion, and accepted them as a correct demonstration of the problem involved, with the modification that in a block of property where all of the buildings were built up to a high limit that the economic height would drop from twenty to about sixteen stories high.

GEORGE C. NIMMONS.

**Structural Service Department appears on the second right hand page following**

# Structural Service Department

SULLIVAN W. JONES, *Associate Editor*
LEROY E. KERN, *Assistant*

*In connection with the work of the Committee on Structural Service of the American Institute of Architects and in collaboration with other professional societies and organized bodies having the same objective—improvement in building materials and methods and better shelter for humanity in all its manifold vocations and avocations.*

## Abstracts

*It is the purpose of the Structural Service Committee and* THE JOURNAL *jointly to give, in this division each month, brief abstracts of all publications by the Government Departments and Bureaus, University and other research laboratories, States and Associations, which contain fresh information in regard to materials or methods employed in construction and thus accord architects and others a convenient means of keeping themselves conversant with rapidly expanding knowledge in the technique of construction.*

**Modern Methods of Protection Against Lightning.** (35n6)—(*U. S. Dept. of Agriculture. Weather Bureau. Farmers' Bulletin* 842, *by Roy N. Covert. Pages* 32. *Size* 6″ x 9″. *Illustrated.*) This bulletin gives concise, practical and up-to-date information for installing equipment so as to secure the greatest degree of protection with the type of installation chosen.

*Materials Used in Lightning Protection.*—The material used in protecting a building from lightning may be classified under four heads: conductors, fasteners for conductors, aerials, including points and supports, and grounds. In order to avoid electrolytic corrosion, the use of two different metals in the same system, such as copper and iron, should generally be avoided, particularly if moisture is continually present. It is not always practical or necessary, however, to adhere strictly to this rule, but if two dissimilar metals are placed in contact their drying off quickly after rains or snows is essential to the prevention of corrosion.

Copper, iron, and aluminum all meet the requirements for strength and electrical conductivity and therefore durability and first cost are the determining factors. Copper resists corrosion almost indefinitely in soil relatively free from ammonia and in air except where exposed to acid fumes. Iron, either galvanized or copper plated, is widely used on account of its low first cost. It must, however, be carefully protected from corrosion before being installed and continually watched to see that it does not deteriorate. Aluminum, although it is almost equally as non-corrosive as copper except in the presence of alkalies, is but rarely used.

*Kind of Equipment to Choose.*—There are several factors that enter into a choice of the type of equipment, viz., the value of the building, the nature and value of its contents, whether the protection of life is involved, what sum of money is available for investment in protection, etc. In general a durable and adequate protection is best but the installation of such an equipment may be impracticable, or even uneconomical. In this event a less costly installation may be made, at some sacrifice of durability and efficiency, and a large measure of protection still be assured. With the object of meeting these various needs the following three sets of specifications have been prepared: Copper-cable installation; Installation of iron conductors and fittings; Inexpensive equipment.

*Specifications for Copper-Cable Installation.—Conductor.* Tightly twisted-copper cable of commercial purity shall be used, approximately one-half of an inch in diameter, and composed of seven strands of four wires each. The cable shall be run as directly as possible on the building, and sharp bends or loops shall be avoided. Bends or loops of the cable where it passes over the edge of the roof on the way to ground shall have large radii. Where the aerials meet the horizontal conductor the cable shall be formed into an inverted Y, the vertical part of the aerial meeting the horizontal in an arc of about 16 inches radius.

Where end-to-end joints of the conductor become necessary, the strands at the cut ends shall be interwoven for a distance of 5 or 6 inches and carefully soldered. The conductors shall be run in single lengths where possible and unnecessary joints avoided. Where branches with the main conductor occur, the joints shall be soldered, the branch cable meeting the main cable in an arc of 20 to 24 inches radius. These joints shall be made by laying the cables side by side, binding the two together for several inches with copper wire, and then soldering carefully.

*Cable Fasteners and Supports.*—Use gun-metal or copper screw type fasteners spaced about 6′0″ apart and securely screwed to the building. In connection with masonry expansion bolts must be used. Should the screwing of the fasteners to the shingle roof render a leak possible where the screw enters, make holes water-tight by means of lead washers.

No insulators shall be used with the fasteners or for any part of the equipment.

*Aerials.*—Aerials shall be located at points indicated on drawings. (See note).

*Points.*—Solid, copper-bayonet points, without plating, shall be used. The joints of the points to the vertical copper cables forming the aerials shall be soldered.

*Supports or Braces for Aerials.*—Tripod supports shall be used. Fasten to roof with brass screws or with sherardized iron through bolts when possible. When through bolts are used provide lock nut or upset end of the bolt.

*Height of Aerials.*—Aerials shall be 4′0″ high above ridges, gables, and flat roofs; 1′6″ above the tops of chimneys, peaks, and pointed parts of the building.

*Grounds.*—Dig a narrow trench of sufficient depth to reach permanent moisture and to a distance of 15 feet or so away from the foot of the conductor to be grounded, or to a greater distance if the earth is rocky and the trench must be shallow. Separate the cable into its four strands for a distance of 6 to 7 feet from the outer end, which should reach to the end of the trench; or strand the cable for a greater length if the trench is shallower and longer. Embed the cable placed in the bottom of the trench in granulated charcoal, pea size, saturated with water, using about 5 inches of charcoal above the cable and the same thickness below. Fill in the earth and tamp thoroughly. Where the cable enters the trench and passes to the bottom, make a bend of large radius.

Protect the cable from injury and corrosion where it enters the ground by surrounding it with a block of dense concrete, 6 inches in diameter, extending 6 inches above

*Atlantic Terra Cotta feature for Pershing Square Building, New York. York & Sawyer—John Sloan, Architects; Chas. T. Wills, Inc., Builders.*

# Rugged and Ragged

The Pershing Square Building, now nearing completion, is one of the largest buildings in New York and has one of the most valuable locations, on 42nd Street, directly opposite the Grand Central Terminal.

The Architects, York & Sawyer and John Sloan, are using Atlantic Terra Cotta with ragged edges, gray in color, haphazard flashes of golden brown, and dark blue glaze in some of the modeled detail.

Atlantic Terra Cotta lends itself readily to unusual specifications.

*"Questions Answered" on request*

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ground and not less than a foot below. Also protect the cable by surrounding it with a piece of 1 inch galvanized iron pipe about 8 feet long, the lower end embedded in the concrete block. When in place, fill the pipe to the top with a cement grouting.

*Interconnection and Grounding.*—Cross-connect the gutters and down spouts to the lighting conductors, using No. 6 B. & S. gauge copper wire with soldered joints, the gutters connected at each end and the down spouts at the lower ends. Solder the gutters to the down spouts.

Pipes and other metal work, within the building, extending for a considerable distance parallel to the lightning conductors on the roof or the side of the building, shall be cross-connected to the nearest conductor at one end and the other end grounded or connected to another conductor on the exterior, provided the distance from the interior metal work to the conductor is 8 feet or less. Use No. 6 copper wire and solder the joints. Small masses of metal more than 6 feet from the nearest conductor outside or cross-connected metal work within will not be cross-connected.

*Specifications for Installation of Iron Conductors and Fttings.—Conductors.* Galvanized-steel, star-section rod with copper couplings shall be used, three-fourths of an inch in diameter. Run the rod as directly as possible on the building, but avoid sharp bends or loops. Make the bends or loops of large radius where the conductor passes over the edge of the roof. Where the aerials meet the horizontal conductor, the conductor shall be formed into an inverted Y.

Rods shall be 8′0″ stock length with each end provided with copper couplings. End-to-end joints shall be made by screwing the rods together. Where branches from the main conductor occur, Y conductors shall be used so that easy bends may be formed with laterals.

*Cable Fasteners and Supports.*—Use galvanized-iron screw fasteners with sherardized-iron screws or bolts. For details and further specifications see "Copper-cable installation."

*Aerials.*—See specifications for copper-cable installations.

*Points.*—Solid, copper-bayonet points without plating shall be used. The point shall be screw-jointed to the star-section rod forming the aerial.

*Supports or Braces for Aerials.*—Use a galvanized-iron tripod support, fastening it to the roof with sherardized-iron screws, through bolts, or expansion screws, as the case requires. When through bolts are used, provide a lock nut, or upset the end of the bolt.

*Height of Aerial.*—See specification for copper-cable installations.

*Grounds.*—Construct a copper-plate ground, the area of the plate to be at least 10 square feet; its thickness one-eighth of an inch. Rivet and solder a ½-inch copper cable to the plate, the cable of sufficient length to extend to surface of ground and be screw-jointed to the star-section rod. Bury the ground plate in earth where there is permanent moisture, with about 5 inches of broken charcoal, pea size, above the plate and the same thickness below. Saturate charcoal with water, fill in hole, and tamp thoroughly.

Protect the conductor, including the joint of copper-cable to galvanized-iron rod where it enters the ground, by surrounding it with a block of dense concrete, 6 inches in diameter, extending 6 inches above the ground and a foot below.

*Interconnection and Grounding.*—Follow specifications for "Copper-cable installation," excepting that No. 6 galvanized-iron telegraph wire, Birmingham wire gauge, and galvanized fittings and screws shall be used instead of copper.

*Specifications for Inexpensive Equipment.—Conductors.* Use extra heavy ½-inch galvanized-iron pipe for the conductors. Run the pipe as directly as possible on the building, but avoid sharp bends or loops. To form the bends required, as for example where the pipe passes over the edge of the roof on the way to ground, the pipe should be bent into proper shape. The conductor pipe shall be screwed together with couplings. Where branches from the main conductor occur, as at the ends of the building on the roof, "Y-bend" fittings may be used and the branch pipes bent into arcs of large radius. Intermediate branches with the principal conductor should be made with crosses or tees.

*Conductor Fasteners and Supports.*—Galvanized-iron pipe straps or plumber's clips shall be used for attaching the pipe to the building. Use iron screws for wood, and iron expansion screws for masonry. The holes in the roof where screws enter should be made water-tight by means of suitable washers.

*Aerials.*—See specifications for copper-cable installation. The aerials will be constructed of standard galvanized-iron ½-inch pipe and fittings; the points of iron rod. Install aerials 3 feet high above ridges, gables, and flat roofs; 18 inches above the tops of chimneys, peaks, and pointed parts of building.

*Grounds.*—Use pipe grounds consisting of 10′0″ length of 1″ extra heavy pipe driven into the ground until its upper end is about 4″ above the surface of the ground. To the upper end of the ground pipe screw a ½″ x 1″ reducer and a short ½″ nipple and join into the conductor by means of a galvanized-iron union.

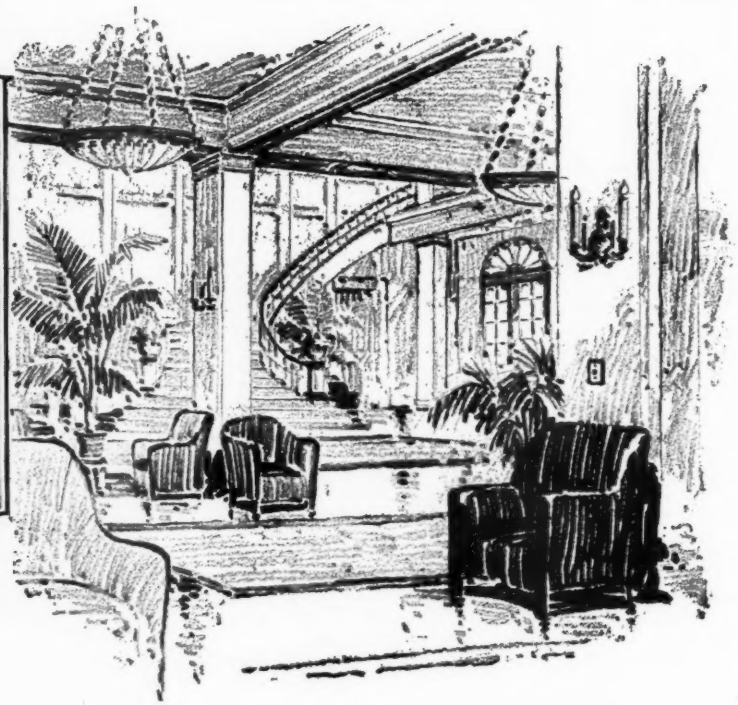
*Interconnection and Grounding.*—Follow specifications for "Copper-cable installation," excepting that No. 6 galvanized-iron telegraph wire, Birmingham wire gauge, and galvanized-iron fittings and iron screws shall be used.

*Note.—Location of Aerials.* As a general rule along ridges and flat roofs the aerials should be spaced not more than 25′0″ apart. On extensive flat roofs it is therefore necessary to place aerials not only around the edge of the roof, but, in addition, at points more or less uniformly distributed about the area within the edge. Each elevated portion of the building, such as chimneys, peaks, towers, gable roofs, etc., ordinarily should be protected by one or more aerials.

Special care should be used in protecting steeples or towers. Sometimes several aerials will be required. Two conductors at least should be run from the aerials to separate grounds and the conductors cross-connected to the balance of the system.

**Gypsum Tile.** (10)—(*U. S. Dept. of Commerce, Bureau of Standards. Circular No.* 108. *'Gypsum—Properties, Definitions and Uses"* (3*g*) *Pages* 21. *Size* 7″x10″). Gypsum tiles come in a great variety of sizes, to suit all purposes. One size commonly used for building partitions is 12 inches wide by 30 inches long by 3 inches thick. They are usually "cored"—that is, with holes run through them longitudinally —although solid tiles can be obtained. These holes are introduced principally to make the tiles lighter, thereby reducing the freight costs and the labor of handling. The air spaces which they form may assist the tile somewhat to resist the transmission of heat. For the same reason, the tiles are usually made of calcined gypsum in which is included not more than 5 per cent, by weight, of wood fiber. This makes them of such a nature that they can be cut with a wood saw. Gypsum tiles must be set in gypsum mortar,

*Kansas City Club, Kansas City, Mo. Wired by the Denton Engineering & Construction Co., Smith, Rea & Lovitt, Architects—equipped thoughout with G-E Tumbler Switches.*



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made of 1 part calcined gypsum, by volume, to 2 parts of sand. One tile of the material of the dimensions noted above will weigh about 30 pounds. When laid on edge, the usual method, it can be expected to carry a load of 1260 pounds with a large factor of safety. The surfaces of these tiles are usually roughened to form a key for the plaster.

In the design of precast reinforced gypsum tile, strength rather than lightness is the paramount consideration. These tiles do not contain any sand or fiber, and are of solid or cored pattern. They are made of second-settle calcined gypsum, with as little water as possible, so as to develop maximum strength. Tiles of this character are used mainly for roof construction, being covered, of course, with standard roof coverings to protect them from the weather. While certain stock sizes are recognized, it is customary to make the tile to order, so that they will fit into the supporting members of the roof.

**Gypsum Wall Plaster.** (21a2)—(*U. S. Dept. of Commerce, Bureau of Standards, Circular* 108, *"Gypsum—Properties, Definitions and Uses."* (3*g*). *Pages* 21. *Size* 7"x10"). About three-fourths of all the gypsum mined finds its final market as wall plaster. The simplest forms of gypsum sold for this purpose is the straight calcined gypsum, which is used as an addition to lime putty for white-coat work. This is sold as "gaging plaster," sometimes called "stucco," and can be had either unretarded or retarded to set in about 20 minutes.

Calcined gypsum does not work so smoothly under the trowel as could be desired. As a concession to the plasterer, therefore, it has become common practice to add 10 per cent to 15 per cent of clay or hydrated lime to the material at the mill. The mixture so produced, retarded to set in from one to six hours, is the gypsum plaster of commerce, which is sometimes termed "hard wall plaster." It is also sold as "neat gypsum plaster" in the East and as "cement plaster" in the West. The adjectives "fibered" and "unfibered" denote whether or not any hair or wood fiber has been added to it.

Neat gypsum plaster is designed to be used for the scratch and brown coats of plaster. For this purpose sand must be added to it on the job. For scratch-coat work it is customary to use 1 part of neat plaster by weight to 2 parts of sand; for brown coat the proportions are 1 to 3. Plaster to which the sand has been added at the mill is now obtainable. It is known as "gypsum sanded plaster," "ready-mixed scratch coat," or "ready-mixed brown coat."

Another variety is known as "wood-fiber plaster." This is neat gypsum plaster containing about 1 per cent by weight of wood fiber. It is designed to be used with or without sand, depending upon the nature of the base or background to which it is to be applied.

Wall plasters and other building materials made of gypsum have a remarkable ability to resist fire. The reason for this is due to the chemically combined water of crystallization which, as stated, is about 20 per cent by weight. The heat breaks up these crystals and liberates the water, the process being slower as the heat penetrates farther into the gypsum. As long as there are any water crystals in the gypsum to be broken up the material will not warm appreciably above the temperature of boiling water.

*Specification for Neat Gypsum Plaster.* The following specification has been adopted as tentative by the American Society for Testing Materials and is recommended by the Bureau of Standards:

*Definition.* Neat gypsum plaster is a plastering material in which not less than 85 per cent of the cementitious material is calcined gypsum, mixed at the mill with other materials.

*Composition.* Neat gypsum plaster shall contain not less than 85 per cent, by weight, of calcined gypsum. The remainder may consist of materials to control the working quality, setting time, and the fibering.

*Time of Setting.* Neat gypsum plaster shall set in not less than 1½ hours.

*Tensile Strength.* Neat gypsum plaster shall have a tensile strength of not less than 150 pounds per square inch (10½ kg-cm$^2$).

**Sewage Disposal for Residences and Small Institutions.** (29c2)—(*Engineering Experiment Station, Purdue University. Bulletin No.* 6 *by R. B. Wiley. Pages* 35. *Size* 6" *x* 9". *Illustrated.*) This bulletin has been prepared with two objects in view: first to furnish enough information for the average rural resident to provide for proper disposal of the sewage from his home, and second, to inform school and institutional trustees on the general subject of sewage treatment that they may know in a general way what type of disposal may be installed.

*Contents.*—Methods of Disposal, Dilution, Methods of Treatment, Cess-Pools, Septic Tank, Imhoff Tank, Tank Covering, Disposal of Septic and Imhoff Tank Effluent, Absorption, Irrigation, Contact Beds, Sprinkling Filters, Sand Filters, Siphons, Sludge Beds, Grease Traps, Location Piping, Concrete.

**North Dakota Laws and Rules in Regard to the Construction, Inspection, Ventilation and Sanitation of School Buildings.** (35b)—(*Compiled by Edward Erickson. Published by State Department of Public Instruction. Pages* 24. *Size* 6" x 9". *Illustrated.*) *Contents.*—The Law in Regard to Construction of School Buildings and Inspection, Ventilation and Sanitation Thereof; Introductory Statement; Heating and Ventilating of School Buildings; Ventilation; Plans and Specifications for School Buildings; Dimensions of School Rooms; Blackboards; Lighting; Color of Walls and Ceilings; Window Shades; Heating and Ventilation; The Jacketed Stove; The Hot Air Basement Furnace; Steam Heat; Fan System of Ventilation; The Furnace Room; Fire Protection; Fire Drill and Guards for Public Schools; Sanitation; County Board of Health Has Authority to Condemn School Buildings; Toilets; Drinking Fountains; Water Supply.

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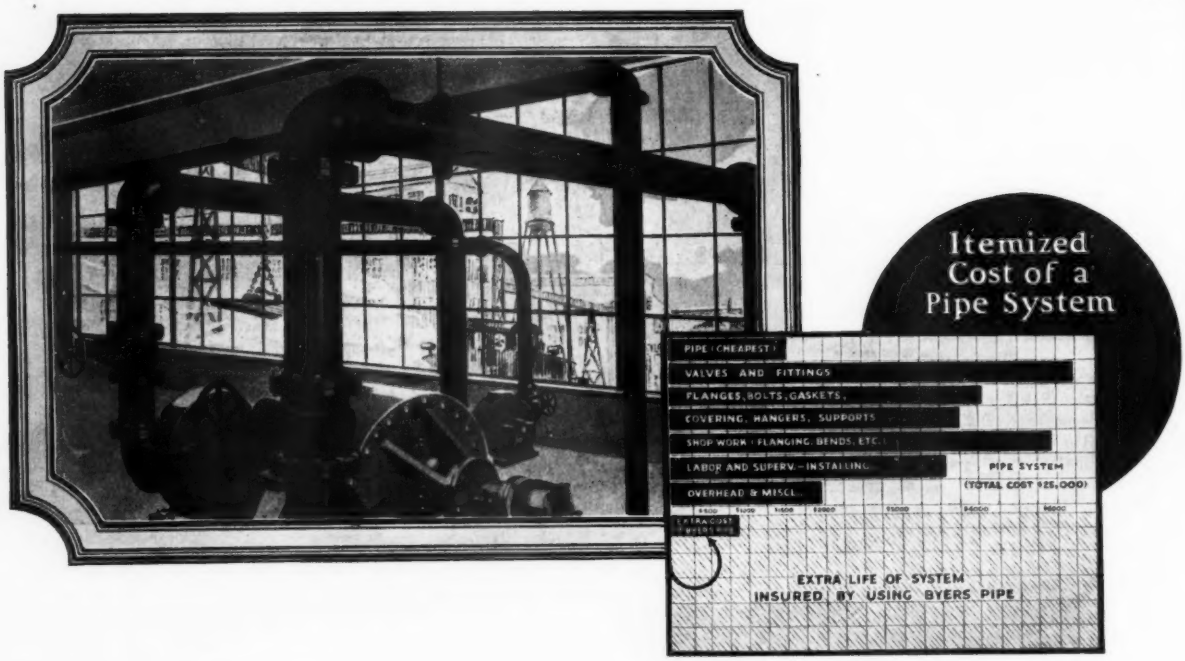


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